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## Peptic Ulcer, A Manifestation Of Hyperparathyroidism

EDWARD K. MORSE, M.D.

Hyperparathyroidism due to adenoma is a disease of protean manifestations. Its complex, diverse, and fluctuating symptomatology is a result of impaired and altered physiology of other organs created by the associated chemical imbalance. Some of these secondary effects become so pronounced that they overshadow the true nature of the disease, causing a critical condition which in itself would appear to be the primary problem.

Case reports in the literature of recent years indicate an increased recognition of peptic ulcer in hyperparathyroidism<sup>4,5,14</sup>. Confirmation of this association has been hindered by: (1) surgical treatment of the ulcer prior to the diagnosis of the underlying hyperparathyroidism, and (2) the family history of ulcer tendency in several of the cases reported.

### CASE REPORT

The following case is presented as evidence of a direct association of these two conditions.

A. A., a 44-year-old white male, was admitted to the hospital December 4, 1955, complaining of upper abdominal pain. The patient had noted a rather marked discomfort in the epigastrium the preceding evening and after retiring was awakened by severe epigastric pain for which he was given some sedation. The pains became increasingly severe by early morning and were accompanied by nausea and vomiting of a clear watery fluid followed by a brownish mucoid material and undigested food. He was again seen by his physician and immediately admitted to the hospital.

It was learned that for 10 to 15 years the patient had had variable amounts of indigestion characterized by epigastric distress and heartburn. For this he had taken

Tums or soda on occasion. He denied any history of bloody or tarry stools. He had had one previous severe attack of pain a couple of years earlier which responded to simple rest and required no physician's care. Additional history revealed that his only significant past illness was a Streptococcus infection followed by alleged kidney damage secondary to sulfa drug therapy. He denied any history of tuberculosis or diabetes, but stated that he had had mild asthma on a few occasions and a known allergy to eggs. He had had no surgical procedures. The patient stated that he smoked one pack of cigarettes a day and admitted that his indigestion had improved during a period of abstinence from smoking. There was no history of ulcer in any member of the family.

Examination at the time of admission revealed an acutely ill man suffering severe upper abdominal pain. Cold sweat appeared on his brow and he had a very poor and pasty color. Blood pressure was 170/110. The pulse rate was 140. The respirations were 28 and the temperature was 98°. The eyes revealed round, regular, and equal pupils which reacted to light and distance. The ears were negative and the nose was clear. The mouth had artificial dentures and showed evidence of dehydration. Palpation of the neck and supraclavicular regions was entirely negative. The trachea was in the midline and the thyroid was not enlarged. The lung fields were clear throughout. Heart sounds were good and the rhythm was regular. No murmurs were noted. Examination of spine was negative and there was no CVA tenderness. The abdomen showed definite spasm on the right side and more marked in the right upper quadrant. Pressure tenderness was noted throughout the upper part of the abdo-



men, but was most pronounced in the right epigastrium. Peristalsis was normal and there was no distention. There were no palpable organs. The groins were negative for nodes and hernia. The rectal examination revealed no rectal shelf and no rectal tenderness, the stool was a normal brown. The prostate was not remarkable. The impression was a penetrating gastric or duodenal ulcer. As there was evidence of sealing the patient was treated conservatively by means of constant gastric suction through a Levine tube, sedation, parenteral fluids, an antispasmodic and antibiotics.

Studies done within the first 24 hours revealed 5.16 million RBC, 34,000 WBC, and a differential of 84% mature segs, 6% stabs, 7% lymphs and 3% monos. The sedimentation rate was 5 mm in 60 minutes. The NPN was 44 mg%. A serum amylase was 32 units (normal 8 to 32). Urinalysis revealed a slightly cloudy yellow urine with acid reaction and a 1.016 specific gravity. There was 2+ albumin and no sugar or acetone. Sediment showed 2 to 5 WBC and 0 to 2 RBC per hpf. A repeat serum amylase on the following day was 32 units while serum calcium was 12 mg%, (normal 9 to 11 mg%). During the first week three stools were negative for occult blood. The white count dropped to 12,400 with 79% mature segs, 5% stabs and 16% lymphs. Blood chloride was 106 meq/l. The NPN was 42 mg% and the sedimentation rate was 23 mm in 60 minutes.

Clinically the patient showed good response the first few hours following admission under conservative management and continued this course for the next few days. Tenderness and spasm of the right upper abdomen gradually eased. He complained of shortness of breath, but the lungs remained clear. On the fourth day the Levine tube was removed and the patient was started on a Sippy regime. He was maintained on an antispasmodic and an antacid by mouth, the antibiotics were discontinued on the sixth day. A mixture of milk and cream was not well tolerated and, therefore, milk alone was given. His course was complicated by a two day period of extremely severe diarrhea for which no cause could be found and at which time his general condition again became critical. He improved with correction of the resultant dehydration. He gradually became moderately uncooperative and depressed and at the same time exhibited peculiar mental symptoms characterized by mild confusion and memory loss. Within a few days he showed injection of his sclera and complained of occasional diplopia, photophobia and marked pain on convergence. On ophthalmologic consultation no pathology could be found other than injection of the sclerae. He was treated with vitamin B-12 empirically. Heartburn and abdominal cramps persisted in spite of varying the antacid and antispasmodic medications. In addition, he showed increasing intolerance of the Sippy diet, improving somewhat on a change to more solid foods.

Nervousness and apprehension seemed to mount and

were uncontrolled by sedation. Mentally he showed some clearing and additional history was obtained, revealing previous episodes of depression, pasty complexion for many years and pains in the knees and heels some three years ago. His physician at that time informed him that he had "too much calcium in his joints" and he was, therefore, placed on a milk-restricted diet which led to marked improvement in his symptoms.

Although the patient was discharged from the hospital on December 24, 1955, it was obvious that he had not responded adequately to his ulcer regime, and it was felt that there was some underlying metabolic problem which would require subsequent study.

At home he had a continuance of his crampy abdominal pain, heartburn and eye symptoms plus moderate distention of the abdomen and back pain. His diet, which included a limited amount of milk, was poorly tolerated and readmission to the hospital became necessary on January 1, 1956. At this time he had the same pasty color, he was weak, showed signs of weight loss, had marked injection of his sclera and partial amnesia for the events of his previous hospitalization. In addition, he was nauseated and the abdomen was moderately distended and quite tympanitic with diffuse pressure tenderness in the upper half.

A normal temperature and a red count of 4.19 million with 12 mg of hemoglobin belied his seriously ill condition and appearance. In view of an elevated white count of 17,000 and a marked shift to the left it was questioned whether the patient had an abscess of the lesser peritoneal cavity or chronic pancreatic disease, either of which might also explain the back pain that the patient had had from time to time and of which he still complained. A gastric analysis showed no free hydrochloric acid in the fasting state while the combined was 12.5. The diagnosis of a peptic ulcer was varified by a prepyloric crater noted on an upper gastrointestinal series (Fig. 1) and by a subsequent episode of gastrointestinal tract bleeding which required three transfusions.

Because of an increase in the serum calcium to 13.9 mg% and in spite of a normal inorganic phosphorus of 3.19 mg% (normal 3 to 4.5 mg%) and an alkaline phosphatase of 6.89 King-Armstrong units (normal 0-12 K. A. units) further investigation was thought necessary to rule out parathyroid pathology or malignant disease before any surgery for the ulcer was undertaken.

Skull films revealed marked decalcification, particularly in the parietal bones and a cystic area was noted in the mandible, (Fig. 2). Subsequently, other films of the skeleton showed general decalcification with marked loss of normal trabeculation and thinning of some cortices, (Fig. 3). A chest film showed a cystic area in the left first and right third ribs plus increased pulmonary markings, (Fig. 4). Abdominal films showed suggestive nephrocalcinosis.

During the ensuing week the following laboratory data was obtained: serum calcium ranged from 13.0



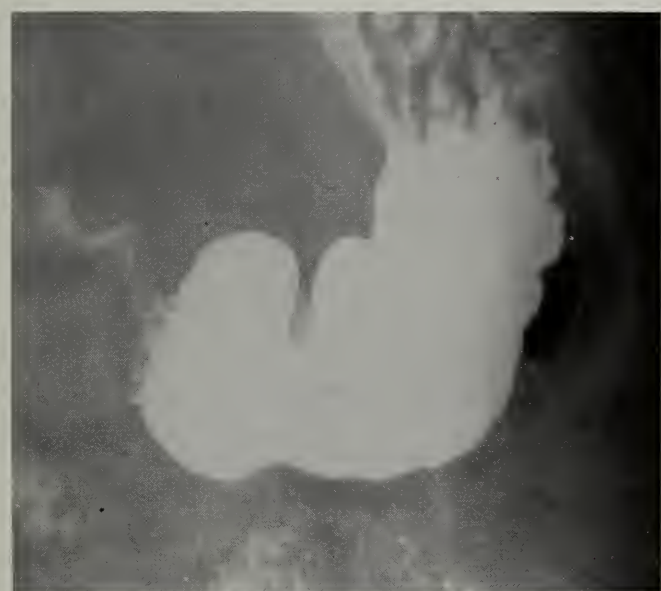


FIG. 1: (a). Barium meal 1/3/56 showing prepyloric ulcer. Note spotty foci of soft density in kidney areas suggesting nephrocalcinosis.  
(b). Barium meal 4/6/56 showing healed ulcer.

mg% to 15.6 mg%, alkaline phosphatase from 6.89 to 7.2 King-Armstrong units, and the inorganic phosphorus from 3.19 to 4.4 mg%. The Sulkowicz test was persistently positive and the sedimentation rate was 90 mm in 60 minutes. The fasting blood sugar was 93 mg%, the total protein 8 to 9.35 mg% with reversal of the A-G ratio, averaging 2.15 albumin and 6.5 globulin. The  $\text{CO}_2$  was 22 meq/l (49 vol.%). The blood chloride was 105 meq/l. The NPN varied from 47 to 71 mg% while the creatinine was 4.98 mg%. Prothrombin time was 50% and 92% and the cholesterol was 135 mg%. Cephalin flocculation was normal and the



FIG. 2: AP film of skull showing cyst of right mandible and decalcification changes, most marked in the parietal bones.

billirubin was 0.37 mg%. An acid phosphatase was 1.82 King-Armstrong units. A urine test for Bence-Jones protein was negative while an additional urinalysis showed 2 to 3 granular casts, a few WBC and RBC and a persisting 1+ albumin. A button bone marrow biopsy of the sternum showed general hyperplasia and no evidence of any tumor. The electrophoresis pattern of the blood and urine showed no suggestion of myeloma.

While in a fasting state for laboratory procedures the patient exhibited marked improvement in his general condition and behavior pattern. With omission of milk from his diet he continued to improve. Repeated examinations of the neck revealed a suggestion of a deep-seated mass on the right side and a barium swallow showed deviation of the esophagus to the left.

Surgical exploration of the neck was scheduled for February 3, 1956, and laboratory data 24 hours before surgery finally became consistent with hyperparathyroidism, showing a serum calcium of 12.8 mg%, inorganic phosphorus of 2.2 mg%, and an alkaline phosphatase of 14.28 King-Armstrong units. The total protein and reversal of the A-G ratio remained unchanged. At operation a parathyroid adenoma mass measuring 6 cm in its greatest diameter was found behind the right lobe



FIG. 3: Right humerus revealing thinning of the cortex and alteration of the normal trabeculations associated with generalized decalcification.

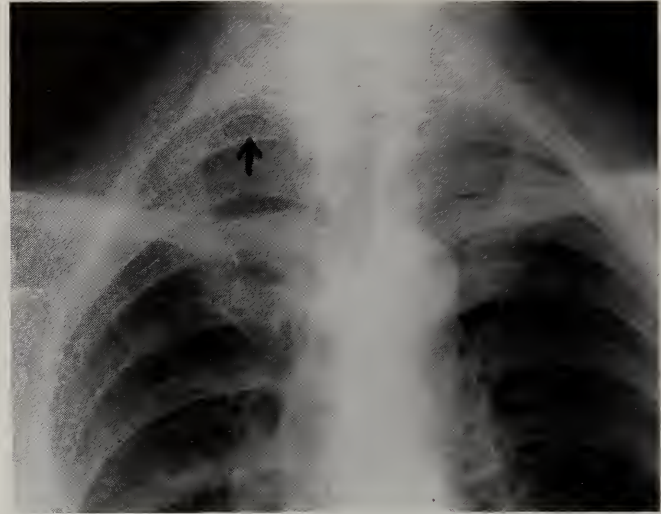


FIG. 4: Chest film showing cyst in proximal portion of the right 3rd rib, a cyst of the left 1st rib, generalized decalcification of bones, increased pulmonary markings, and an incidental Ghon's tubercle in the right lower lung field.

#### DISCUSSION

This case and the studies of others in the literature emphasize the problems of diagnosis. The one test generally employed for screening of cases of suspected hyperparathyroidism is the serum calcium determination which is subject to considerable laboratory error. Furthermore, serum calcium is increased by excessive ingestion of vitamin D, by increased dietary calcium, and by impaired renal function. It may be decreased in association with lowered serum total protein and with infusions of saline.<sup>12</sup> It is interesting to note that when this patient was most critically ill from the penetration of his gastric ulcer the elevation of calcium was minimal and at that time was accounted for by the presence of dehydration. In retrospect, the fact that the serum calcium showed so minimal an elevation may have been caused by saline infusions given at that time, since saline infusions, according to Albright and Reifenstein, are useful in parathyroid toxicity, presumably through temporary effect in lowering the blood calcium<sup>12</sup>.

There is no one pathognomonic test and the results of the usual tests for calcium, phosphorus, and alkaline phosphatase are more often than not inconclusive<sup>3</sup>. The renal phosphorus reabsorption, the phosphate deprivation, and the calcium-infusion tests have proved helpful in some cases,<sup>6,8</sup> but unreliable in others<sup>3</sup>. The so-called "classical" laboratory picture of a high serum calcium, a low phosphorus, and an elevated alkaline phosphatase may be lacking. Indeed, normal levels of serum calcium and phosphorus have been demonstrated in patients with proven hyperparathyroidism without renal insufficiency<sup>8</sup>. This patient's repeatedly normal phosphorus and alkaline phosphatase studies are not in line with the theory that the parathyroid hormone acts upon the renal tubule to prevent the reabsorption of phos-

of the thyroid. There was surrounding inflammatory reaction and the mass itself contained a focus of calcification and a large cystic cavity that was occupied by old fluid blood. A normal size parathyroid gland was noted near the lower pole of the right lobe of the thyroid and the left side of the neck was not explored. Pathologic report revealed an adenoma of the parathyroid gland with no evidence of malignancy. Within 48 hours after surgery the serum calcium dropped to 7.01 mg% and the inorganic phosphorus to 1.9 mg%. Minor signs of tetany were controlled by calcium gluconate powder given by mouth in liberal amounts. He was discharged from the hospital February 13, 1956 with no further therapy for his peptic ulcer.

A barium meal April 6, 1956 showed evidence of a healed ulcer and the patient has remained completely asymptomatic to date, (Fig. 1).



phorus which causes a compensatory elevation of calcium. Alterations of the usual inverse ratio of calcium and phosphorus may occur with renal damage, but the minimal degree of renal impairment in this case does not appear to be adequate cause. The higher NPN levels following the upper gastrointestinal tract bleeding undoubtedly reflected the presence of blood in the intestinal tract. It has been emphasized that a variety of factors affect both the serum calcium and phosphorus levels so that an alteration of one is not inevitably associated with an inverse alteration of the other<sup>3</sup>. Some have postulated the presence of two hormones produced by the parathyroids, one affecting calcium and the other phosphate metabolism<sup>3</sup>. It is wondered whether further support may be provided by the fact that the adult parathyroid glands are composed of two types of cells, the chief cells and the oxyphil cells. The former are responsible for production of parathyroid hormone, while the function of the latter remains obscure<sup>15</sup>. It

will be noted in the case presented here that only after the tentative diagnosis of hyperparathyroidism was made and the patient treated by a low calcium, (restraint of a Sippy diet in spite of a proven ulcer), did the laboratory data fall in line.

Of possible significance is the dislike for milk that accompanied his intolerance and which has been mentioned as a feature in other case histories<sup>11</sup>.

Compounding the problem of diagnosis is the fact that hypercalcemia may be caused by many other conditions (Table 1). Early diagnosis of hyperparathyroidism would seem to depend largely on an awareness of the diversity of symptoms,<sup>4,7,9</sup> (Table 2), and a realization that many symptoms stem from the various organs or systems secondarily affected by the hyperparathyroidism. Rarely is the tumor of a parathyroid sufficiently large to lead one to the diagnosis by palpation of a mass in the neck<sup>9</sup>. Once suspected it may sometimes be felt by diligent examination, and when associated with

TABLE 1 — CAUSES OF HYPERCALCEMIA

(1). Hyperparathyroidism: a. adenoma b. hyperplasia	( 6). Acute osteoporosis.
(2). Renal insufficiency.	( 7). Sarcoid.
(3). Milk alkali syndrome.	( 8). Hyperthyroidism.
(4). Vitamin D intoxication.	( 9.) Idiopathic of infants.
(5). Malignant disease: a. leukemia b. multiple myeloma c. malignancies with or without evidence of bone destruction.	(10). Osteomalacia.
	(11). Polyostotic fibrous dysplasia.
	(12). Laboratory error.

TABLE 2 — SYMPTOMS THAT MAY ACCOMPANY HYPERPARATHYROIDISM

GASTRO- INTESTINAL TRACT	MUSCULO- SKELETAL SYSTEM	URINARY TRACT	CARDIO- VASCULAR SYSTEM	NERVOUS SYSTEM	GENERAL
*abdominal pain <sup>1,4,6,14</sup>	*fatigue <sup>2,4</sup>	colic <sup>3,10,12</sup>	angina <sup>7</sup>	*tingling <sup>3,13</sup>	*pallor
*nausea <sup>3,10,12,14</sup>	*weakness <sup>4,7</sup>	hematuria <sup>12</sup>	intermittant claudication	*memory loss	*diplopia
*vomiting <sup>10,12,14</sup>	*joint pains <sup>13</sup>	dysuria	shock	*disorientation <sup>10</sup>	*eye pain
*heartburn <sup>10</sup>	fractures <sup>2</sup> (pathologic)	*polyuria <sup>3,10</sup>		twitching <sup>10,13</sup>	*injection of sclerae
hematemesis <sup>10</sup>	clubbing of fingers <sup>11</sup>	frequency		hallucinations <sup>7</sup>	*photophobia
constipation <sup>4,14</sup>	kyphosis <sup>2,3</sup>			convulsions <sup>10,13,14</sup>	*headache
belching	skeletal deformity			*irritability <sup>2</sup>	*shortness of breath <sup>3</sup>
*flatus	*degeneration of teeth <sup>3</sup>			*depression <sup>10</sup>	loss of libido <sup>10</sup>
*melena				*amnesia	chills <sup>12</sup>
*distention				hyper- reflexia <sup>3,10,12</sup>	*fever <sup>12,13</sup>
*polydypsia <sup>3,10</sup>					*weight loss <sup>3</sup>
*intolerance of milk <sup>11</sup>					*lethargy <sup>13</sup>
*anorexia <sup>3,4,14</sup>					*back pain

\*noted in case presented.



TABLE 3 — SOME OF THE SPECIFIC CONDITIONS ASSOCIATED  
WITH HYPERPARATHYROIDISM

(1). Urinary tract calculi. <sup>3,12,14</sup>	(7). Pancreatitis. <sup>1,6</sup>
(2). Urinary tract sepsis. <sup>12</sup>	(8). Adenoma of pituitary or pancreas. <sup>1</sup>
(3). Renal insufficiency. <sup>12,14</sup>	(9). Anemia. <sup>11</sup>
(4). Osteitis fibrosis generalisata. <sup>11,14</sup>	(10). Psychosis. <sup>2,5</sup>
(5). Pathological fractures. <sup>11</sup>	(11). Hypertension.
(6). Peptic ulcer. <sup>4</sup>	(12). Hypomagnesemia. <sup>13</sup>

deviation of the esophagus as determined by a barium swallow study, it is most significant. The fact that there was bleeding into the adenoma described here probably accounts for the tumor's becoming palpable in the latter course of his illness.

There are instances in which psychoneurosis or psychosis have been prominent features of this disease<sup>5</sup>. The mental changes in this particular case gave early evidence of some underlying metabolic disease, but at the same time prevented the obtaining of a history that would help in substantiating the diagnosis of hyperparathyroidism. Only after repeated history-taking was the complicating memory loss of the patient realized. Many facts significant in establishing the diagnosis of hyperparathyroidism were elicited by careful and repetitious system reviews after the acute illness had begun to wane. The history of weakness and fatigue, for example, was repeatedly denied in the first week or two of observation and later the patient expounded in detail as to how very limited his capacity for work had been. The extent to which this patient's mental changes went is shown by the fact that he still has amnesia for most all events of his hospitalization prior to the neck exploration. The insidiousness of the disease had also led to an unawareness on the part of the patient that his condition or specific symptoms were anything but the natural process of growing older. It has been estimated that symptomatology has existed up to 39 years prior to the diagnosis<sup>5</sup> and that the average duration of symptoms of hyperparathyroidism is 12 years<sup>5</sup>.

The most important factor in diagnosis is to be aware of hyperparathyroidism and the various conditions with which it may be found<sup>1,3,4,10</sup> (Table 3) and, once suspected, to differentiate this disease, which is amenable to surgery, from other causes of hypercalcemia. Reliance on a single test or two little attention to minor chemical changes have caused delay in diagnosis, resulting in added morbidity and in some instances unnecessary surgery on various organs.

#### SUMMARY

A case of hyperparathyroidism associated with pyloric ulcer which healed following excision of a parathyroid

adenoma is reported. Diversity of symptomatology and problems in diagnosis of hyperparathyroidism are discussed.

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22 White Street, Rockland

# Catastrophic Post-Tonsillectomy Secondary Hemorrhage

LORING W. PRATT, M.D.\* and JOHN A. ROOT, M.D.\*\*

Catastrophic secondary hemorrhage occurring as a complication of tonsillectomy is a disastrous episode. Within six months of each other, two young patients at the Knox County General Hospital hemorrhaged severely following tonsillectomy. The manner of controlling the hemorrhage seemed life-saving in each instance. Considering the number of T&As done each year, it is surprising that carotid ligation has not been more widely mentioned in the literature as a means of dealing with this spectacular complication. The authors were reluctant to embark upon ligation of the external carotid artery and its branches, partly because of the fact that the procedure had not been advocated frequently; but the situations at hand seemed to demand it.

We have found considerable literature on secondary post-tonsillectomy hemorrhage, but only Lederer, in the standard texts, mentions the possible use of carotid ligation in its control. Cummings reports 20,000 and Keene 12,000 cases of tonsillectomy and adenoidectomy with no mention of carotid ligation as a necessary adjunct to the control of hemorrhage in either of their series.

The purpose of this paper is to bring to the attention of those doing tonsillectomy the possibility of this delayed complication and to point out a method of control of such bleeding; namely, that of ligation of the external carotid artery and/or its branches. When these episodes occur there is little time to prepare for them. On the second bleeding episode one of our patients was brought in pulseless and apparently exsanguinated. Had blood not been readily available and energetically introduced into her vascular system, death certainly would have followed.

Because measured blood loss at routine tonsillectomy may vary from 25 cc. to 500 cc., according to studies of the authors and of King, secondary bleeding may supervene in a patient who is still anemic from recent blood loss associated with his T&A. For this reason, moderate hemorrhage may have more serious import than in a normal person. Ligation of the carotid provides additional help in controlling these hemorrhages. Burnett reported many years ago that ligation of the external carotid artery is the treatment of choice, in cases where ligation of the blood supply is necessary. He referred to authors who had reported cases of both success and failure in stopping tonsil bleeding following ligation of the common carotid artery. Continued bleeding is produced by blood from the opposite internal carotid artery passing into the homolateral internal carotid

artery via the circle of Willis and by retrograde flow into the external carotid artery. This would permit continued bleeding from the site of injury and explains the failure in those cases mentioned. To point up the importance of delayed secondary hemorrhage, we have only to mention a recent case reported by Sanderson, in which a fatal exsanguinating hemorrhage occurred on the twenty-first postoperative day. We should certainly remain aware of this possibility and formulate our plan of care with this in mind.

Secondary post-tonsillectomy bleeding is variously estimated as occurring in between five per cent and thirty-three per cent of the cases. Such variation in percentage is probably related to the closeness of follow-up and to medications employed in the postoperative period.

It is essential to take special note of any individual who has secondary bleeding, particularly one who has a tendency to recurrent secondary bleeding. It is in the latter group of recurrent secondary bleeders that exsanguinating hemorrhages have been encountered.

Two types of bleeding follow tonsil surgery, commonly classified as primary and secondary post-tonsillectomy hemorrhage. Primary hemorrhages are those which occur in the first day following surgery, usually within the first two or three hours; but all occur within the first day.

We feel that in all instances these episodes of bleeding result from surgical trauma to the tonsillar fossa which is inadequately repaired at the time of operation or from retained fragments of adenoid tissue in the nasopharynx. Bleeding may come about in one of several ways. A cut blood vessel may retract into the muscular tissue so that its bleeding may be temporarily stopped; the spasm of the vessel may be maintained until after the patient is out of the operating room and then the bleeding may ensue. It is possible that a vessel is not properly ligated at the time of surgery, or the vessel may have its wall damaged. A knot may slide off the bleeding vessel, or a suture may become untied or break in the course of retching or vomiting post-operatively, and the patient may then bleed. Post-operative bleeding from the nasopharynx is most frequently caused by vessels in a tab of incompletely removed adenoid tissue.

In general, these bleeding vessels are relatively easy to control. The use of Vitamin K, intravenous Pre-marine,<sup>®</sup> or other clotting agents such as adrenochrome monosemi-carbazone sodium salicylate complex, may be helpful. We do not feel that complete reliance upon them is desirable, however. We think a most practical

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method of management in primary post-tonsillectomy bleeders appears to be the topical use of an astringent vasoconstrictor solution such as a mixture of tannic acid powder and adrenalin. Better still, a suture ligature can be placed about the bleeding point using either general or local anesthesia as the situation permits. In the case of nasopharyngeal bleeding from adenoid tissue, the best treatment is curettage and removal of the tag of tissue. Direct visualization of the nasopharynx with ligature or placement of a postnasal pack may be indicated. Sometimes blood transfusion is necessary and with the use of a blood bank it is possible to keep the patient from seriously depleting his circulating blood volume until adequate hemostasis is secured by one of the afore-mentioned methods.

Secondary bleeding is of a different sort. It occurs after the first twenty-four hours and is seen typically from seven to eight days following surgery. It is variously estimated as occurring in between four and thirty per cent of all tonsil cases (Neivert, Rittenhouse). At this time slough separates from the healing tonsillar fossa exposing a raw granulating area that oozes diffusely. This is the most common source of secondary bleeding. Other factors such as separation of absorbable ligatures or needle injury to arteries may cause bleeding. Still other factors include the use of acetylsalicylic acid (Singer, Neivert), Vitamin K and Vitamin C deficiency (Preston, Neivert), infection (McLauren, Raggio and Rittenhouse), hematologic and vascular factors (Mangabieria-Albernaz Coyle), and the weather (Aberg).

Control of episodes of minor secondary bleeding is, as a rule, simple and may be accomplished by removal of the clot. Topical anesthesia may be helpful to minimize the gag reflex. Cautery of the bleeding vessel with electrocautery, or the topical application of caustics and vasoconstrictors such as tannic acid and adrenalin, silver nitrate, or chromic acid is often adequate. Sometimes a suture may be necessary. In the case of secondary bleeding in the adenoid fossa, a post-nasal pack may be used. Adrenochrome monosemicarbazone sodium salicylate complex (Adrenosem®), intravenous Premarin® or intramuscular injection of U.S.P., double strength posterior pituitary extract may be used. The need for replacement of lost blood by transfusions of whole blood must be considered and undertaken promptly if needed. Occasionally a large amount of blood is lost, however; but this is rare if the patient reports when bleeding begins. It is essential to check the hemogram in all cases which report appreciable bleeding, since blood may be swallowed, held in the stomach, and for this reason pass unnoticed until a large volume of blood is vomited. It is indeed desirable to admit the patient to the hospital. Prophylaxis is variously thought to consist of antibiotic therapy, Vitamin K, Vitamin C, reduction or elimination of the use of acetylsalicylic acid, softening of the diet and reducing activity during the crucial period of the seventh and eighth day postoperatively.

Secondary postoperative hemorrhage from the naso-

pharynx is not usually a serious problem, and as a rule is well controlled by removal of the clot and/or post-nasal packing.

Although seemingly a minor occurrence, this type of bleeding should serve to warn of the possibility of impending, severe, secondary hemorrhage.

There is a second and more violent sort of secondary post-tonsillar hemorrhage which we have designated catastrophic secondary post-tonsillectomy hemorrhage. This may be brought about in several ways. It may be the result of an erosive infection with disruption of arterial continuity. It may come about by release of a so-called absorbable suture. It may be related to arterial needle injury which becomes manifest when such absorbable sutures slough. Fortunately, catastrophic bleeding occurs rarely. It is a devastating experience. It is the type observed in the two patients reported in this paper, and the sequence of events follows.

In the present cases, both patients bled from an area at the lower pole of the right tonsil at the base of the tongue. From these areas large blood vessels squirted pulsatile streams of bright blood into the throat and it was only by ligation of the homolateral external carotid artery and its branches that secure hemostasis was obtained. Direct control by suture ligature in the fossa was markedly hampered by the friable "porky" consistency of tissues in this area.

In both instances an uneventful tonsillectomy was performed and the patient recovered from his immediate postoperative state without difficulty. Four days later, with the first patient, an episode of considerable but not excessive bleeding was encountered. In retrospect the site of bleeding was not identified, and it ceased of its own accord. The patient was controlled with blood transfusions and made an uneventful initial recovery. With the next episode of bleeding, however, the blood loss was tremendous and the situation most grave. In both patients it was felt that extreme blood loss resulted from the exposure of a large artery which poured uncontrollably until spasm shut it off by itself and shock reduced the blood pressure enough to stop bleeding. On the third episode of bleeding in the first case, and the second episode of bleeding in the second case, ligation of the branches of the external carotid artery was accomplished. The second case was ligated more quickly because of our experience with the previous case. The only common denominator in these cases was that suture ligatures had been used in the tonsillar fossae of each child, and each received acetylsalicylic acid postoperatively. However, this has been common procedure in our practice for the past several years; and these are the only two instances of this sort which have been observed.

Ligation of the branches of the external carotid artery include the ascending pharyngeal, the superior thyroid, the external maxillary, the lingual, and the internal maxillary divisions of the external carotid. We felt that it was important to ligate these vessels separately



as well as the external carotid artery itself in order to prevent continued bleeding through anastomotic channels by retrograde flow through the damaged vessels. Prior to ligation of the carotid artery in Case I, it was necessary to perform a tracheotomy in order to secure an adequate airway and also to assist the respiration of the patient in shock.

Emphasis cannot be too great on the tremendous advantage gained here by tracheotomy where the oral cavity was continually filling with blood, too rapidly to allow passage of an endotracheal tube.

The blood supply to the tonsil is commonly considered to arise from several arterial vessels (see Fig. 1) the branches of which all have their origin in the course of the external carotid artery. These branches are the ascending pharyngeal, the external maxillary, the lingual, and the internal maxillary. There are anastomotic connections of the hyoid branch of the lingual artery with the hyoid branch of the superior thyroid artery.

As one consults the literature relative to the blood supply of the tonsil, he is immediately impressed with the indefiniteness and apparent confusion concerning this subject. Different authorities offer unduly different descriptions. It seems obvious from these variations that there must be of necessity a great variation in the normal anatomical relations in this region, as no specific regular blood supply has been described. All are agreed that the parent supply is from the external carotid artery. The best composite picture seems to be that the major supply arises from the dorsal lingual branch of the lingual branch of the external carotid artery, with other arterial supply arising from the tonsillar branch of the external maxillary artery, the tonsillar branch of the ascending palatine artery, the tonsillar branch of the ascending pharyngeal artery, and the tonsillar branch of the lesser palatine branch of the internal maxillary artery.

Browne felt that the tonsil had the same general blood supply as any other lymph node and that the arterial vessel entered the hilum of the gland near the lower pole, and stated that this was ordinarily the tonsillar branch of the external maxillary artery. Other arteries, he felt, were in close relation to the tonsil, but were not actually a part of its blood supply.

The peritonsillar plexus of veins and one rather large vein, the paratonsillar vein, lie in close apposition to the capsule of the gland. The venous drainage of the tonsil was, likewise, according to Browne, by way of two large veins leaving the so-called hilum of the tonsil near the base of the tongue at the point where the arterial supply enters the gland. He believed that the peritonsillar venous plexus was imaginary.

It is important to recall the rich anastomoses between the hyoid branches of the superior thyroid artery and the lingual artery. There is also rich anastomosis between the superior and inferior thyroid arteries. It is this collateral circulation in addition to the collateral supply from the contra-lateral side which necessitates

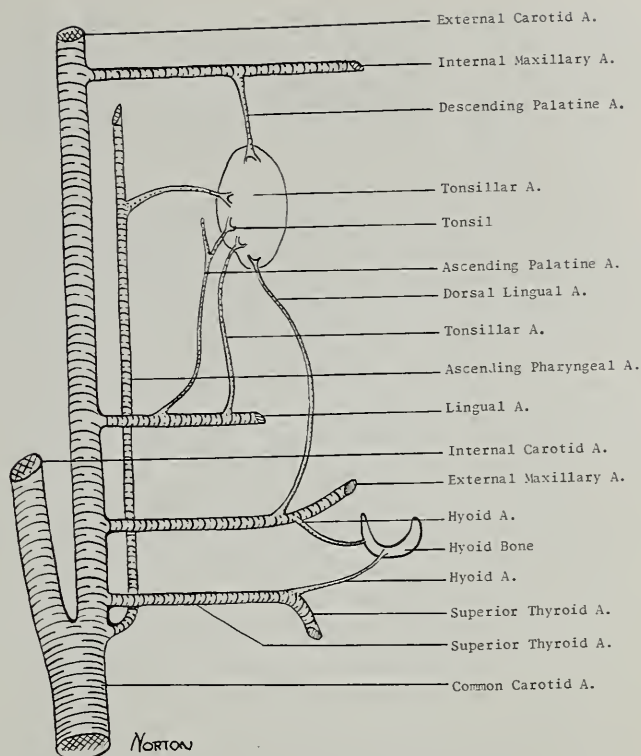


FIGURE 1. This is a schematic representation of the possible arterial supply of the tonsil. Due to vascular variation in this area, there are many instances of hypertrophy or even absence of these vessels. Thus the blood supply in any particular patient may be quite different from that shown in this diagram.

ligation of the individual branches of the external carotid artery and of the external carotid artery itself.

Clinically, it appears that there is commonly arterial blood supply to the tonsil at both upper and lower poles. Venous drainage varies from several small to one large paratonsillar vein located in the areolar tissue between the tonsil itself and the muscular bed of the fossa. In the cases in point, it was not felt that the bleeding came from any one of the veins mentioned or indeed from any of the usual structures encountered in tonsillectomy, but that it developed from erosion of an artery normally deep in the tissues of the fossa, but close enough to the surface of the fossa to be exposed and opened as by an erosive infection.

#### CASE REPORTS

##### CASE 1. P. M. *First Admission:*

This nine-year-old white female was admitted January 20, 1959 to Knox County Hospital and discharged January 24, 1959. *Present Illness:* This girl had been troubled with tonsillitis several times during the winter months and was admitted with a diagnosis of chronic infection of the tonsils and adenoids. She had had several episodes of abdominal pain of undetermined etiology. Other than her present illness, her past history was essentially negative. She had had no serious illnesses, bleeding tendencies, surgery, or renal disease. *Physical Examination:* There was a Grade III systolic

murmur over the apex transmitted to the neck. Lungs were clear to percussion and auscultation. The tonsils were enlarged. *Laboratory:* Urinalysis negative. Albumin: 0. Sugar 0. Hemoglobin 11 grams, WBC 8,550, 66 segs, 33 lymphs, 1 mono. *Chest X-ray:* Heart not enlarged. Lung fields clear.

*Operative Note:* Using general anesthesia, a Crowe-Davis gag was put in place. The nasopharynx was palpated, and the large mass of adenoid was then removed with a Barnhill curette, the fossae of Rosenmueller were then curetted with smaller Barnhill curettes and the nasopharynx was packed with a postnasal pack. The tonsils were then both removed by blunt dissection and snare, removing a moderate-sized "apron" of lymphoid tissue from the base of the tongue. Gauze sponges were used with pressure to control the bleeding, and it was necessary to place one plain #00 catgut suture ligature at the lower pole of each tonsillar fossa to control small vessels. The pack was removed from the nasopharynx, and the child was returned to the postanesthetic room in good condition with no bleeding. *Impression:* Chronic infection of tonsils and adenoids. *Operation:* T&A.

The patient's postoperative course was characterized by a little oozing from right nostril and later from both nostrils; however, this was not alarming at any time. She maintained a normal blood pressure for two days following surgery. She did vomit several times, the vomitus containing small amounts of dark blood. Her hemoglobin at this time was 10.5 grams, 72%. Three days postoperatively, her temperature was 98, pulse 100. Patient no longer vomited. Condition seemed good and she was discharged.

#### *Second Admission:*

This nine-year-old white female was re-admitted January 24, 1959 and discharged January 29, 1959. *Present Illness:* Shortly following discharge from the hospital, the patient had a severe hemorrhage from both oral and nasal cavities. She was promptly re-admitted to the hospital. On examination, her pulse was 120, blood pressure was 90/70. Both nostrils were filled with clotted blood. The throat showed areas of slough over the tonsillar fossae but no evidence of active bleeding. Her hemoglobin was 9.5 grams, 65%. During the next few hours, she received 250 ccs of whole blood slowly. Her condition was stable. Blood pressure was 125/70, pulse 88, temperature 99.2. She expectorated clots intermittently. About 12 hours following admission, she hemorrhaged severely and was taken immediately to the operating room, where a blood transfusion was started. Blood pressure at time of surgery was 103/50, but gradually improved. Under Pentothal® anesthesia, with the Crowe-Davis mouth gag in place, all clots were removed from both left and right tonsillar fossae. The superior pole of the left tonsillar fossa was edematous, tissue friable; however, no single bleeding point could be recognized. On the right side there seemed to be less evidence of acute bleeding. The nasopharynx con-

tained a moderate amount of old blood clot. When removed, it left a small ooze from the left side of the nasopharynx. A posterior nasal pack designed to compress both sides was then inserted without difficulty, and the patient was returned from the operating room. The following day, the hemoglobin was still 9.0 grams, 60%. 300 ccs of whole blood was given. That evening the posterior pack was removed. There was marked improvement, although she persisted with a right earache. The patient was discharged on the fifth hospital day, apparently in very good condition with no evidence of bleeding.

#### *Third Admission:*

This nine-year-old white female was re-admitted January 29, 1959 and discharged February 19, 1959. Except for restlessness, the patient had an uneventful day at home but woke up during the evening and hemorrhaged again severely. She was admitted immediately to the hospital operating room apparently in extremis. No blood pressure or pulse was obtainable. Marked pallor was apparent. The patient responded only slightly to any stimuli.

Immediately a cut-down was done and a cannula was placed, without anesthesia, in the right saphenous vein at the ankle. Whole blood was started immediately. After about 350 ccs of rapid infusion, the patient's blood pressure became obtainable and she responded and became restless. At this point, bright bleeding occurred from the oral cavity. Inspection revealed that blood was coming from the right tonsillar fossa at the base of the tongue. A definite persistent arterial bleeding vessel could be visualized. Attempts at clamping this were unsuccessful because of friable granulation tissue and slough in the area. Severe hemorrhage persisted. Attempts at endotracheal intubation were unsuccessful. Sponge pressure in the fossa did not control the bleeding. The patient once again bled profusely, went into shock, and again appeared to be in extremis. Tracheotomy was performed immediately. Meanwhile, a second blood transfusion was started through another cut-down. She was receiving blood in excellent quantity, using blood pumps. Once the tracheotomy was established, she improved markedly. She responded and could be anesthetized lightly. The mouth gag was placed and exposure revealed the squirting blood vessel noted above. This could be controlled by compressing the bleeding point between the thumb and finger, the thumb being held externally. With this control of the bleeding, transfusions were continued until the patient's blood pressure began to stabilize. Direct control of the hemorrhage with running and interrupted chromic #0 suture was then attempted. Several of these were placed deeply. The patient improved considerably and the blood pressure returned to normal with no evidence of hematoma or enlargement of the cervical region. She began to react and respond intelligently. By the time she left the operation room, her vital signs were entirely satisfactory.



The patient was maintained postoperatively on Combiotic® and Chloromycetin®. On the fourth postoperative day, temperature was 99.8, pulse 88. Her general condition seemed satisfactory. On the fifth day the tracheotomy tube was removed without difficulty. She meanwhile complained of right earache. Late that evening, a moderately severe hemorrhage recurred. She was again taken immediately to the operating room. An adequate intravenous coverage was obtained through a vein in the right forearm. Transfusion was started immediately. She was alert and cooperative. The tracheotomy tube was easily inserted through the previous stoma. She was then lightly anesthetized. She was receiving blood; and as her blood pressure improved, she began to bleed severely once more. The right tonsillar fossa was exposed. The material used to suture was still present, although it appeared to have pulled away from surrounding tissue due to sloughing necrosis. There was fresh blood clot beneath the suture. Upon exposing the area, more rapid arterial bleeding was seen; and again, this was not controlled by clamping. Anesthesia was introduced through the tracheotomy tube while one of the nurses maintained pressure in the tonsillar fossa with a sponge on a kelly clamp and controlled the bleeding. The skin of the right side of the neck was then prepared and draped, and an oblique incision was made parallel to the skin folds just below the angle of the jaw. The platysma fibers were separated; the cervical plexus was visualized superiorly. By using blunt and sharp dissection and going partially through the sternocleidomastoid muscle, we were finally able to isolate the common facial vein at its junction with the jugular vein. The carotid artery was then readily exposed and controlled with an umbilical tape. The external carotid artery was identified. Meanwhile, bleeding had begun once again in the oral cavity. The external carotid at its origin, the superior thyroid, the external maxillary, the lingual artery and the external carotid artery above the lingual artery were all ligated individually with nylon. Bleeding as seen in the oral cavity did not stop completely, but it slowed sufficiently so that the area could be well visualized. Additional chromic suture ligatures were placed in the tonsillar fossa. The patient had not been in as severe a degree of shock as on her previous episode, and her airway was maintained well with the tracheotomy. She received 2,000 ccs of whole blood and was in good condition on leaving the operating room.

This patient's postoperative course this time was relatively uncomplicated. She developed a high fever two days following surgery and had a superficial phlebitis which was transient and cleared quickly. The tracheotomy tube was removed on the fourth day following surgery. By the seventh postoperative day, her hemoglobin was 12 grams, 82%. The cervical wound had healed satisfactorily. The oral cavity, except for a fairly extensive area of slough which was healing, was

not remarkable. Her course since this time has been characterized by occasional twinges of pain in the right side of her neck in the region of the ear. Except for this, she has made a complete recovery and is fully active.

#### CASE II. J. J. *First Admission:*

This nine-year-old white female was admitted May 3, 1959 and discharged May 5, 1959. *Present Illness:* She had had frequent earaches with purulent otorrhea, frequent sore throats during the past winter. *Past History:* She had had no serious illnesses, no bleeding tendency, no allergies, no previous surgery. *Physical Examination:* She was a thin, slight, pale girl. Heart was not enlarged, and lungs were clear to percussion and auscultation. Tonsils were twice their normal size. The right ear drum was thickened and scarred, but showed no perforation. There was a moderate kyphoscoliosis. *Laboratory:* Hemoglobin 11.5 grams, 79%, WBC 10,400, 56 segs, 34 lymphs, 6 monos, 4 eos, coagulation time: 7 minutes. Bleeding time: 1 minute, 30 seconds. Urinalysis: sugar -0, albumin -0. *Operative Note:* Under general anesthesia, with the Davis mouth gag in place, the nasopharynx was curetted of all palpable lymphoid tissue. The tonsils were then removed using sharp and blunt dissection, with the snare at the bases. There was a moderate amount of adenoid tissue. A single #00 catgut suture was placed in the right tonsillar fossa to control bleeding. Blood loss was not excessive. *Postoperative Course:* There was no indication of bleeding immediately postoperatively, nor one day postsurgery. At the time her temperature was 99.4. The patient was discharged in good condition.

*Interval:* Except for one to two degrees of temperature elevation and a rightsided earache, the patient did satisfactorily until the day of the second admission.

#### *Second Admission:*

This nine-year-old white female was re-admitted May 9, 1959 and discharged May 18, 1959. *Present Illness:* On the morning of admission, the patient complained of right earache. Later she vomited an estimated 10 ccs of blood. That evening, she was seen at the Outpatient Department and had vomited more dark bloody fluid, an estimated 200 ccs was vomited in the Outpatient Department. *Physical Examination:* At this time marked pallor was apparent, pulse thready, 120. Blood pressure was 80/40. Her throat was examined, using 5% Cyclaine® spray. No clot was apparent in either tonsillar fossa, and there was no active bleeding. During the next five hours, the patient received a unit of blood slowly, 20 mgs. of I.V., Premarin; and Kappa-dione® 10 mgs. Five hours after admission, massive hematemesis occurred again. The patient was taken to the operating room immediately and anesthetized with intravenous Pentothal and examined. A bleeding artery was noted in the right tonsillar fossa near the base of the tongue. There was considerable friable slough in this area. Bleeding appeared well controlled by pressure

externally, under the angle of the jaw and thence by a suture of chromic catgut in the tonsillar fossa. Two units of blood were given. Postoperatively the patient's color was satisfactory, pulse 100, blood pressure 104/70. There were no signs of bleeding. Her pulse varied thereafter between 96 and 110.

Twenty-four hours later the patient was restless. Without other warning, she vomited copious amounts of bright red blood. She was taken again directly to the operating room, where pressure behind the angle of the jaw apparently controlled the hemorrhage temporarily. She was awake at that time but in shock. Blood pressure was 64/38, pulse over 120. A cut-down was done and a Polyethylene catheter was inserted into the left greater saphenous vein. Later the right saphenous vein was also used. Whole blood was started immediately. Intravenous Pentothal again was used. Whole blood was started immediately. Intravenous Pentothal again was used. Endotracheal intubation was difficult due to the presence of active bleeding, but this was accomplished eventually. Bleeding was from the right tonsillar fossa, although the previously placed suture was still present and tied.

Using direct pressure over the tonsillar fossa with a sponge on a clamp, one of the nurses was able to control the bleeding. The right side of the neck was then prepared, draped, and the external carotid artery was exposed through an incision below the angle of the jaw. The external carotid artery at its origin was identified and ligated with #00 nylon. The superior thyroid, ascending pharyngeal, lingual and external carotid just distal to the lingual were then ligated individually, again in continuity. There was no subsequent bleeding. No attempt at direct suture of the tonsillar fossa was made this time because of friable slough there. The patient received 1200 ccs of whole blood during the procedure. She was placed on Achromycin.® Her postoperative course was entirely uneventful except for temperature elevation to 100 degrees for the first two days. On the ninth hospital day her vital signs were normal. Her hemoglobin was 13 grams. Her RBC was 4.7 million and WBC and differential were normal. The wound appeared to have healed satisfactorily. The throat showed no more than the expected areas of slough.

Two weeks later the patient had a transient, slightly painful, moderately swollen, tender nodule overlying the inferior margin of the mandible at approximately the position of the external maxillary vessel. This subsided spontaneously. She has also had a transient superficial phlebitis of the left leg. At the present time, she is apparently well.

#### SUMMARY

This paper has discussed the etiologic factors involved in the production of post-tonsillectomy hemorrhage, both primary and secondary. Various methods of control of this bleeding have been described. Two ex-

ceptional cases designated as catastrophic secondary post-tonsillectomy hemorrhage have been reported and discussed in detail. The bleeding encountered in these two cases was not satisfactorily controlled by any of the usual simple methods and immediate transfusion. Ligation of the external carotid artery was resorted to only after unsuccessful attempts at direct control in the tonsillar fossa.

#### CONCLUSIONS

1. Secondary post-tonsillectomy hemorrhage rarely may be of catastrophic proportions.
2. Two cases are reported in which such hemorrhage arose from the lower pole of the right tonsillar fossa.
3. This bleeding was thought to be the result of erosive infection exposing and opening an arterial vessel contiguous with the tonsillar fossa. Other possibilities include needle arterial injury and/or "absorption" of ligature in the late postoperative phase.
4. Suture ligatures may be more dangerous than recognized heretofore. They should be placed as superficially as possible when controlling bleeding during tonsillectomy.
5. Direct ligature control at the site of hemorrhage can be unsuccessful because of friable, infected granulation tissue in the tonsillar fossa at the time of secondary hemorrhage.
6. Endotracheal intubation, or in desperate situations tracheotomy, is an urgent necessity with severe oral cavity bleeding.
7. Control of hemorrhage in both instances cited was successful following ligation of the homolateral external carotid artery with individual ligation of the branches passing into the tonsillar area to prevent continued bleeding from retrograde flow via anastomotic channels.
8. In cases of post-tonsillectomy hemorrhage, external carotid artery ligation may be a useful and possibly life-saving procedure.

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# Experiences With The Fluoroscopic Image Intensifier

HOWARD APOLLONIO, M.D.

In May 1954 the Knox County General Hospital acquired a Fluoroscopic Image Intensifier after several months of investigation and negotiation. This was the third one installed in New England and the first in Maine. Previous to this acquisition similar equipment at the Massachusetts General Hospital was inspected, confirming our impressions of its value and desirability. Since this time we have used it routinely in all gastro-intestinal examinations and to a lesser extent for other types of examinations.

The history of its development may be traced with early attempts to develop more efficient fluoroscopic screens and to improve the quality of the fluorescent image. Screen visualization has definite limitations but the perfection of the electronic tube has made more brilliant images possible. In this country much of the early basic work in this field was done at Johns Hopkins, at the University of Rochester and in California. The British, Dutch and Germans have developed this to a greater extent. A large number of references concerning Image Amplification appears in the British literature. One of the manufacturers of x-ray equipment in this country is alleged to have spent ten million dollars in developing the intensification system. However, it is only recently that there has been an increasing interest in this equipment. It has been necessary to obtain the mirrors and lenses used in this system from Europe. Only in the past six or seven years have practical units been available on the market and of course further refinements have been and will be developed.

With our Amplifier the regular fluoroscopic screen is removed and readily replaced. The image is carried through the intensifying system, consisting of the electronic tube and various lenses and mirrors, projecting on the viewing mirror, in the same size as the original image would appear on the ordinary fluoroscopic screen. The viewing mirror can be easily adjusted to the operator's position and convenience much more readily than can a fluoroscopic screen. Another type with which I have had no experience has a binocular eye piece which apparently limits its flexibility and usefulness.

In our routine fluoroscopy of the gastro-intestinal tract we use  $\frac{1}{2}$  to 1 milliamperes and 60 to 70 KV, but obtain a much more brilliant and detailed image than with the commonly used factors of 4 milliamperes and 80 or more KV, necessary on the regular fluoroscopic screen. No dark adaptation is necessary and it is possible to work in a dimly or moderately lighted room. Radiation has been thus greatly reduced, both to the patient and the operator, making possible longer periods

of fluoroscopy for each patient; but actually less time is necessary because of the better and more certain visualization. A secondary advantage is in the resulting time saved by eliminating periods of waiting for dark adaptation, making it possible to attend to other work in the light between examinations.

One of the principle objections which have been raised is that the field is too small. Our apparatus has a five inch viewing area, other machines have seven to nine inch fields. Other radiologists who are now using intensifiers have told me that they prefer the five inch mirror to the larger sizes. We have been led to believe that it is better practice to use a small field, not larger than this, for general fluoroscopy. We have found it perfectly feasible to scan a chest or an abdomen adequately.

Awkwardness is another objection which has been raised. However although ours is one of the earlier, less refined models, this objection is not apparent when one has become accustomed to its use; in fact in some respects it is easier to use than the regular fluoroscopic screen.

Another objection raised to the apparatus is the cost which is a very real factor. However the tendency is to regard it as a luxury rather than a necessity which I think it will become. Any x-ray equipment is expensive. Perhaps as more apparatus comes on the market and competition develops, the price may become somewhat less, at least, so we hope.

As stated previously we have used the intensifier routinely for the past five years for all gastro-intestinal examinations. It affords excellent visualization in those areas which are usually seen with difficulty and in the type of patients whose physique makes fluoroscopy difficult. In striking contrast to the regular fluoroscope, intracardiac calcifications are readily seen. It is a great advantage with bronchography as the room can be lighted sufficiently to watch the patient and is especially valuable when the latter is under general anesthesia.

In cooperation with our urologist we have done a sufficient number of retrograde pyelograms to convince us that it might well be indicated as routine procedure, as is fluoroscopy with gastro-intestinal work. Peristalsis and reflux activity of the ureters and kidney pelvis is most interesting and informative. This technique makes it possible to take spot films at the maximum filling stage of the pelvis and calices and at different levels of the ureters when best visualized rather than depending on routine films whose quality of visualization is largely dependent on chance. As an added point of interest we have found that only about one-half the usual amount

of opaque material is sufficient, resulting in practically no discomfort to the patient during the ureteral catheter injection. The intensifier can also be used for general skeletal survey, thus eliminating a large number of films. If a lesion is spotted, films can be limited to this particular area. Other fields in which we have had no experience but in which its usefulness would seem to be apparent would be in angiography and in salpingography.

Ordinarily fluoroscopy used routinely in the reduction of fractures is considered not to be good practice but the intensifier can be used with considerably less radiation hazard to both the operator and patient because of the low exposure necessary. It is perfectly possible to view an extremity fracture with as low an exposure as  $\frac{1}{2}$  milliamperes and about 40 to 50 KV. We have found it especially useful and time saving in our particular method of reducing and fixing intracapsular hip fractures.

The development of better and adequate image amplification has made possible the remarkable development of cinefluorography. This has expanded rapidly and coincidentally with the development of the image amplifier and promises to be more and more widely used. In the fall of 1958 the first Cinegraphic Conference was held at the University of Rochester. This had a large attendance of several hundred radiologists and others

from all over the country. The bibliography pertaining to this subject has attained a large volume. We have talked with a surprising number of radiologists who are now using cinefluorography routinely, some even to the extent of finding spot films unnecessary. Movies taken during the fluoroscopic examination of the gastro-intestinal tract can be projected and examined repeatedly with special projection apparatus geared so that any area can be picked out for more detailed study. One apparatus now well established on the market has a built in monitor to determine the amount of radiation to which the patient is exposed, with the camera synchronized to the operation of the fluoroscope. At this conference it was brought out that the thirty-five millimeter size film was probably the most ideal for examination but the sixteen millimeter is found more practical in view of the expense of the film and more expensive apparatus required to take and project the thirty-five millimeter size.

In summary it may be stated that our five year experience with the Fluoroscopic Image Intensifier has convinced us that it will become increasingly used and supplemented by cinefluorography. We venture to predict that in a few years this will be a routine procedure, replacing the older and established methods.

22 White Street, Rockland

### POST-TONSILLECTOMY HEMORRHAGE — *Continued from page 12*

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- Dr. Pratt, 177 Main Street, Waterville  
Dr. Root, 22 White Street, Rockland



# Acute Cholecystitis In An Eight-Year-Old Boy

EDWARD K. MORSE, M.D.

Acute cholecystitis in children is uncommon and in the absence of a focus of infection or a predisposing disease, such as stones in the biliary tract, it is an even rarer entity.

The clinical picture of cholecystitis in children, unlike that in adults, is essentially one of inflammation localized to the right upper quadrant of the abdomen frequently associated with fever, nausea, and vomiting and usually without the history of intolerance of fatty foods, jaundice, or referred pain.

## CASE REPORT

The following is a case report of a young boy with acute cholecystitis.

B. V., an eight-year-old boy, was admitted to the hospital on the evening of September 4, 1955, because of mild right upper abdominal pain of three days duration and associated with some nausea and vomiting. There was no history of previous gastrointestinal symptoms and his general health had been good apart from the usual childhood diseases.

On examination the patient did not appear very ill. The temperature was 100°, the pulse 88, and the respirations 24. The eyes, ears, nose, and throat were negative and no nodes were felt in the neck. The heart and lungs were within normal limits and the examination of the spine was negative with no costovertebral angle tenderness. Palpation of the abdomen revealed slight spasm in the right upper quadrant where there was also pressure tenderness without rebound tenderness or palpable mass. No nodes or hernia were noted in the groins, the genitalia were normal, and the extremities were negative.

The patient showed no evidence of anemia. The admission urine was negative, but the white count was elevated to 16,750 with 79% polys, 17% lymphs, 3% monos, and 1% eosins.

The day after admission the white count dropped to 15,900 and there was a transient suggestion of rebound tenderness in the right epigastrium. He then showed gradual improvement, moving about without any apparent distress, experiencing no pain on coughing and complaining of no further abdominal pain.

By the end of three days the patient was afebrile and asymptomatic and the white count had dropped to 13,000 with a total of 77% polys. He returned home September 7 under continued observation, having but little residual tenderness in the right upper quadrant at that time. Although cholecystitis was mentioned it was not seriously considered because of the age of the patient

and the impression was that he had a high appendix with subsiding inflammation.

Late in the evening, September 8, on the day following discharge from the hospital, the patient was readmitted because of sudden increase of pain in the right upper quadrant becoming severe and again associated with nausea and vomiting. His temperature was 100°, pulse 92, and respirations 22. Examination at this time revealed marked spasm in the right upper quadrant with a well localized 5 cm to 6 cm. area of tenderness just below the right costal margin. The remainder of the examination was unchanged.

On the basis of the clinical findings, he was operated on and acute cholecystitis was found. The gall bladder was inflamed, tense, and elongated and showed fibrinous adhesions to the adjacent structures. No stones were palpable in the cystic or common ducts, but a 1cm. to 1.5cm. lymph node at their juncture was found and removed with the gall bladder. The common duct itself was not dilated. An incidental appendectomy was done, the appendix appearing negative. The opened gall bladder showed a thickened wall and there was no evidence of stones.

Post-operatively the patient was given an antibiotic and he had an uneventful course. He was discharged from the hospital ambulatory and afebrile on the seventh post-operative day.

The pathologist's report revealed a gall bladder with a thickened, edematous wall and diffusely hemorrhagic mucosa. The cystic duct was small and showed no evidence of obstruction by any foreign material. Microscopically there was thickening of the villi and the wall showed marked infiltration with lymphocytes and plasma cells and areas of neutrophils. The accompanying lymph node showed reticuloendothelial hyperplasia and infiltration of surrounding tissue with lymphocytes and plasma cells. General activity of lymphoid tissue was found on microscopic examination of the appendix. The final impression was acute and chronic cholecystitis, chronic lymphadenitis of the cystic node, and an essentially negative appendix.

A culture done at the time of surgery was reported to show no growth at the end of 72 hours.

## SUMMARY

A case of acute cholecystitis in an eight-year-old boy is reported, unassociated with any known focus of infection and without any associated condition such as anemia or biliary lithiasis.

22 White Street, Rockland



# "The Nursing Home Problem"

PARKER HEATH, JR., M.D.

The State of Maine, according to a survey done by Curran and Smilie,<sup>1</sup> is years ahead of the rest of the country in percentage of oldsters to the general population. Obtaining proper nursing care for the old and infirm is often a problem to the physician in Maine. The nub of the problem seems to focus around the availability of adequate nursing home beds. In Maine, there are approximately 2400 beds in operating licensed nursing homes and an undetermined number in the so-called "boarding homes." About fifty per cent of the nursing home beds are occupied by patients in the public assistance category. That is, their nursing home bill is subsidized by the State.

The State of Maine has a limited program for patients who are unable to pay for nursing home care. The amount paid to the nursing home by the State is \$130 per month for the patient who requires a minimum of nursing care, and \$165 per month for the patient who requires more nursing care. While these rates compare favorably with other states they do not purchase the type of accommodation one would like to consider ideal. There is no question that most of the homes are adequate, that they meet the specifications of the various codes that inspect them; nor is there any question that, for the most part, they are something less than desirable. They fail on the old test question, "Would I want to be kept there myself?"

The operators of nursing homes have been confronted with rising costs on the one hand, and the need for more and better services on the other.

It is safe to say that upwards of ninety per cent of the nursing homes in Maine are located in structures that were never designed or built to be used for this purpose. In some of these, the remodeling amounted to "just another patch on the quilt." In the realm of patient comfort and administrative efficiency, our nursing homes again add up to something less than desirable. It is small wonder that many of them find it difficult — if not financially impossible — to care for their patients for \$130 per month. If we consider the amount of nursing care, personal interest, and individual attention that would be ideal for any one patient, even \$165 a month appears to be inadequate.

A high percentage of its population in the older age group, makes Maine a perfect laboratory for the social planners. It would be both interesting and extremely worthwhile if some foundation or governmental agency could be encouraged to take on the challenge of this problem with the idea in mind of setting up a program that would provide the indigent patient with care that would be considered something more than adequate. This goal cannot be achieved by only pouring more money into the same channels. The new program must contemplate revision of current practices, the development of new laws where indicated, and the formation of new standards in this effort, both for the physical structures and for the medical and nursing care of these unfortunate individuals. No small part of this study should include ways and means of encouraging families to assume their share of the responsibility.

The following suggestions are offered:

1. That doctors in general, and organized medicine in particular, be encouraged to develop a deep and continuing interest in nursing home care.
2. That State and matching Federal funds be made more readily available for constructive repair and renovation.
3. That more trained personnel be required by law.
4. That the annual training courses for nursing home personnel be expanded with emphasis on the newer nursing techniques.
5. The requirement of a minimum wage law for nursing home employees.
6. In every nursing home the development of occupational and physical therapy programs under the direction of State and local social workers.

Until the public fully understands the magnitude of the problem, little will be accomplished. As the first step on the local scene, doctors and all other interested citizens must frequently bring to the attention of church and civic organizations, the need to work out this problem by ourselves. It cannot be solved by referring it to State, regional or Federal authorities. There is no doubt the problem has similar counterparts across the Nation, but this in itself does not make it a national problem. By its very nature, it is a local problem and the solution hopefully will come by action at that level.

1. Wilson G. Smilie, M.D. and Jean A. Curran, M.D. *The Unmet Needs In Medical Care of Rural People, State of Maine*, 1956.

## Necrology



Robert L. Allen, M.D.

1916 - 1959

IN WRITING about Bob Allen, who died suddenly July 31, 1959, I will not attempt to recall his training and qualifications, for his superb surgery was taken for granted. Except to his patients and his immediate colleagues however, his other wonderful attributes are less well known.

Greatness may take many forms in medicine and its practice, but perhaps the most human form comes in an individual who gives tenderness tied with a ribbon of keenest humor to his suffering patients. Gentleness in Robert stemmed from acceptance of the world as it was; but it grew continuously from an absolute avoidance of conflict.

The whole area knew of his surgical skill. Even in the direst of circumstances he would give confidence to us by assuring that the procedure could be done "with one hand" or "by the light of a half-dozen glow worms." He had the knack of setting people at ease by gently ridiculing some physical fear or mental quirk. This was never done with cynicism nor sarcasm, but rather with a tongue-in-the-cheek smile. He made us laugh at ourselves even as he laughed at himself, and his rapier wit was never edged with scorn. Each day we find ourselves reusing some of these "Allenisms" to describe absurd situations or to depict some fine differential point.

Bob enjoyed surgery tremendously, but it did not confine him. He loved the out-door world, sports and nature. His excitement over a difficult case or a difficult wing shot was similar. He rose to such occasions, was elated by results, and carried us along with him. I know that a large measure of happiness came from his home and family. He somehow managed to spend time with his children and I'm sure that he and Nancy have imbued them with the spirit of life in Maine and its many delights.

When conflicts arose within the staff he was the moderator and always did his utmost to keep the peace and to hurt no one. Even in his passing I think his *peaceful persuasion* carries on, and I am sure that our relationships, one with another, are better because of him.

It is impossible to list the innumerable tributes paid to Bob by patients and colleagues, but I can state with feeling that while we are cognizant of our great loss, we are none-the-less grateful for having had him, his skill and his understanding these dozen years.

FRANK W. KIBBE, M.D.



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1. Innerfield, I.: Clinical report cited with permission

2. Clinical report cited with permission



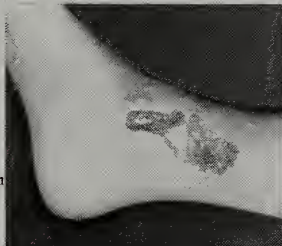
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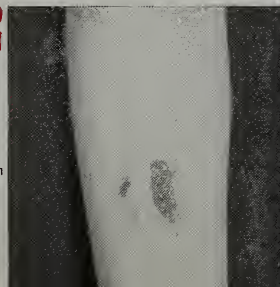
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# The Journal of the Maine Medical Association

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## Across The Desk

### **Psychoanalysis Decision In Tax Case Lost By Drs.**

Money spent by a psychiatrist for his own psychoanalysis is not deductible as a business or medical expense, the U. S. Tax Court has ruled. As a result, Drs. Arnold Namrow and Jay C. Maxwell, presently of Washington and Houston, respectively, must pay additional sums to the Internal Revenue Service. Their appeal was argued in the U. S. Tax Court more than a year ago. Judge Eugene Black, before whom the case was heard, and four other judges dissented from the majority opinion with the explanation that the psychoanalysis would serve to improve the physicians' qualifications as psychiatrists and not — as the Internal Revenue contended — elevate them to a new specialty.

The American Psychoanalytic Association backed the appeal, which was handled by Adlai Stevenson's law firm. Whether the case will be taken to the U. S. Court of Appeals is still undecided. One unknown factor, which has a bearing on the future course, is the number of Tax Court judges who joined in majority opinion, which was written by Judge John E. Mulroney. The bench has 20 members, including four retired jurists recalled to perform judicial duties, but the Court has not disclosed how many joined in the majority view in this case.

### **Polio Vaccine Planning For 1960 Is Discussed**

The Public Health Service was host to a recent one-day conference on ways and means of getting the largest numbers of children and young persons to obtain vac-

cination protection against poliomyelitis early in 1960. According to the PHS estimates, some 87 million Americans have now received at least one vaccine shot and 68 million have received three or more injections.

Represented at the meeting were the AMA, American Academy of Pediatrics, American Academy of General Practice, American Public Health Assn., National Foundation and other organizations.

### **NIH Seeks Referrals Of Patients In Two Areas**

The National Institutes of Health and its Clinical Center need clinical material for newly introduced investigations of hypertension and solid tumors of childhood. For the former, attention will be focused on pheochromocytoma and hypertension of unilateral renal origin. Tumor types of particular interest include Wilms' tumors, neuroblastomas, sarcoma botryoides and the lymphomas.

### **Cholesterol Deception In Labeling Depreciated**

The Food and Drug Administration last week warned marketers of oils, shortenings, margarines and similar fatty substances against using labels which claim or imply that use of the product is sufficient in itself to reduce blood cholesterol. "The public has been misled," said George P. Larrick, head of FDA, "into relying prematurely on data which are still experimental, incomplete and contradictory."

## Off The Market

The FDA revealed that three relatively new products for removal of cerumen have been voluntarily withdrawn from sale due to untoward effects in some cases. They are Kerid (Blair Labs.), Cerulav (G. F. Harvey Co.) and Cerumenex (Purdue Frederick Co.).

## Aetna Chosen Indemnity Carrier In U. S. Program

The Aetna Life Insurance Company, Hartford, Connecticut, will be a prime carrier of the indemnity-type insurance that will be written in the Federal employee health benefits program. Its selection by the Civil Service Commission from among 13 eligible companies was predicated on the size and decentralized systems of operations, CSC explained. Aetna will be required by law, however, to reinsure with other companies that write group health insurance policies.

## New Way Of Screening Blood Donors Reported

A new method of reducing the incidence of hepatitis resulting from blood transfusions was reported today.

A "more useful" method of detecting carriers of the liver disease among blood donors was described in the December 26 issue of the *Journal of the Medical Association*.

The selection of uninfected donors by blood banks is a difficult problem, one reason being that a person may carry the disease-causing virus although he has no previous history of hepatitis and shows none of its symptoms.

The prevalence of hepatitis carriers among the general population is believed to range from one-half of one per cent to six per cent.

An estimated five million blood transfusions are given in the United States each year and "15,000 to 100,000 cases" of hepatitis can be expected to result, according to the *Journal* article.

"These patients are, as a rule, out of work for an average of six weeks and one to five per cent will die," it said.

In a study conducted at the Medical Service and Blood Bank of the Memorial Center and the Sloan-Kettering Institute for Cancer Research, New York City, doctors used a screening test based on increased activity of SGO-T in the donors. This activity appeared to be evidence of impending hepatitis.

The researchers found "a significantly higher incidence of viral hepatitis" among recipients of blood with abnormal SGO-T activity than those who received blood with a normal SGO-T level.

They concluded that this test was "a more useful method for detecting silent carriers of hepatitis virus than other tests of liver function previously evaluated. . . ."

However, they said "unpredictable variables do not permit us, on the basis of this study, to draw definite

conclusions about the advisability of discarding bloods with abnormal SGO-T activity."

They said they felt that their results did warrant further study to determine whether the method is reliable enough to be instituted as a standard screening measure in all blood banks.

## Reasonable Precautions Can Reduce Skiing Accidents

The danger of skiing accidents is overrated and the hazards that do exist could be reduced if skiers took reasonable precautions.

This opinion was expressed in an article in the January *Today's Health*, published by the American Medical Association, which said skiing is far less dangerous than football or boxing.

The total number of ski injuries has risen sharply but not in proportion to the rise in the number of skiers in the fast-growing sport, the article said.

The risk of injuries has been reduced by safer slopes, better instructions and improved equipment, it was pointed out.

"Most of the injuries could be avoided by reasonable prudence. In short, skiing accidents are caused by lack of physical condition, lack of training, negligence, and plain recklessness."

The National Ski Patrol blames 70 per cent of the injuries on skiers simply being "out of control."

Physicians list the following points for preventing ski injuries:

- Exercise to condition muscles before a skiing holiday.
- Warm up immediately before going out on the slope.
- Avoid major runs when tired.
- Use modern safety-release bindings.
- Take lessons if a beginner.
- Leave the trail if a stop is necessary.
- Stop a reasonable distance from the line at a tow or lift.
- Never ski alone.
- Stay out of closed areas.
- Be twice as careful when the temperature changes.

The article was written by Raymond Schuessler, Buffalo, New York.

## Handbook On Chemical Tests For Intoxication Issued

A handbook on "Chemical Tests for Intoxication" has been published by the American Medical Association.

The manual, prepared by the A.M.A. Committee on Medicolegal problems, reaffirms the A.M.A.'s long-standing recommendation that law enforcement agencies adopt chemical tests in all cases of suspected drunk driving.



"It is hoped . . . that all enforcement agencies will adopt chemical tests in all cases of suspected drinking to insure protection of the innocent as well as conviction of the guilty," the booklet said.

". . . chemical tests are invaluable, because, for the first time, they take the matter of the sobriety or drunkenness of the individual from the realm of speculation and reduce it to almost mathematical certainty.

"With the use of these tests, judges and juries no longer have to depend entirely on the opinion of lay witnesses based upon objective symptoms."

The 103-page manual is designed as "a handbook of information which will assure the competent and proper use of the chemical tests."

The manual includes statistics on the role of alcohol in traffic accidents, a description of chemical tests and commercial devices for measuring drunkenness, legal aspects of chemical tests, and suggestions on how to organize a program of chemical tests for intoxication.

It points out that four independent surveys agreed that alcohol is involved in half of the nation's motor vehicle accidents and that the death and injury toll can be materially lessened by eliminating the alcohol factor.

It concludes that a program of chemical testing of suspected drunk drivers "is bound to inspire compliance with the law."

"It puts the police department in the enviable position of being able to tell drivers what is going to be done — and then to be able to do it — with legal and medical backing."

The manual was written by experts in the fields of medicine, law, and traffic safety. It is believed to be the only authoritative handbook on the subject. The manual is available to doctors without charge. It will be sold to others at \$1 per copy.

### **Tax Regulations Proposed Affecting Medical Groups**

The Internal Revenue Service has, at last, put out its proposed definitions which will have an important bearing on tax treatment of medical practice groups and eligibility of members for pension plan privileges. It is more than two years since IRS reversed itself and, accepting a Federal court's decision in the Western Montana Clinic (or Kintner) case, it was agreed that doctors could band together as an association to gain various tax advantages such as a corporation has. But it is only now that the government has laid down its definitions of association, partnership, centralized management, etc.

The proposed rules were published in the Federal Register for December 23 and written comments or suggestions must be mailed within 30 days of that date to the Commissioner of Internal Revenue (Attn: T-PO, Washington 25, D. C.). A public hearing to take oral testimony is probable.

### **Closer Check On Returns**

At an unusual news conference last week, the Internal Revenue Commissioner Dana Latham described steps being taken to end tax abuses relating to questionable entertainment expenses.

Attendance at conventions and enrollment in ocean-going and overseas seminars will come within scope of this drive against loose and dubious interpretations of business expenses. Individual returns, as well as those filed by corporations and partnerships, will call for data on attendance of family members at conventions and meetings.

### **Stress And Cholesterol**

Stress-induced overactivity of the adrenal glands may be an answer to how the body translates high tension into excessive amounts of cholesterol in the blood, according to two physician-biochemists at the National Heart Institute\* in Bethesda, Maryland.

A potent fat-mobilizing pattern of hormone activity has been found in dog experiments by Dr. Eleazar Shafir, a visiting scientist from Israel, and Dr. Daniel Steinberg, chief of the Heart Institute's Metabolism Section. The pattern involves secretions of the medulla and the cortex of the adrenal.

Overactivity of both parts of the paired prune-sized gland atop the kidneys has long been known to result from stress. Not noted previously, however, is the combined activity of the gland's "stress" secretions in increasing cholesterol and other fatty substances (lipids) in the blood.

### **Survival Of The Knowingest — Not The Fittest**

A Self Help Program to prepare the individual to survive on his own in a national emergency was the subject of a two-day joint meeting a few weeks ago between officials of the U. S. Public Health Service and the members of the Committee on Disaster Medical Care of the American Medical Association Council on National Defense.

Discussed was the emergency preparation training of the general public in basic survival, training of workers in allied health professions, such as nurses, pharmacists, veterinarians, and technicians, in skills which could enable them to function as an auxiliary medical corps, as well as the training of physicians in other areas of health care, such as communicable disease control and the determination of safe water and food supplies.

There was general agreement that emergency life-saving training would be useful to the individual in his daily living under normal circumstances, would increase

\*The National Heart Institute is one of the seven National Institutes of Health that comprise the research arm of the Public Health Service of the U. S. Department of Health, Education, and Welfare. The Institutes are located at Bethesda, Maryland.

the nation's health manpower resources, and would in itself provide a deterrent to all-out war.

This tremendous task of devising a Self Help Program to prepare the individual for a disaster situation has become the responsibility of the Public Health Service of the Department of Health, Education and Welfare through authority from the Office of Civil and Defense Mobilization. Last May the Public Health Service established a new Division of Health Mobilization in its Bureau of State Services to investigate the health and medical needs of the nation in time of emergency and direct a program to meet these needs.

### **Pine Pitch Chewing Gum Linked To Sarcoidosis**

The chewing of pine pitch was suggested today as a possible cause of sarcoidosis, a chronic disease which affects the skin, eyes, lungs and bones.

Dr. Robert B. Baer of San Francisco reported in the January American Medical Association *Archives of Internal Medicine* that he found "a good correlation between chewing pine pitch and the development of sarcoidosis about 15 years later" in four members of the same family.

Dr. Baer, who is associated with the department of medicine, Stanford University School of Medicine, said the family was born and raised in southeastern Oklahoma or northeastern Texas and always was surrounded by pine trees.

"... in childhood they all chewed pine 'resin' for chewing gum," he said. "This was a mixture of pine pitch, 'stretcherberries' (a form of huckleberry that gave a bubblegum consistency to the mixture) and, in the springtime, pine 'buzz.'"

The pine buzz, he said, undoubtedly was pine pollen.

Dr. Baer pointed out that his investigation showed "not all people who chew pine pitch develop sarcoidosis, and not all patients with sarcoid have chewed pine pitch or have been in close contact with pine forests."

Conceivably, he said, pine pitch must be chewed in the springtime when it is mixed with pollen in order to produce the disease.

Many medical authors have proposed that sarcoidosis is a hypersensitivity reaction in that tissues react to agents usually innocuous, he said.

Therefore, he said, differences in the amount of pine pitch chewed, the type of pine tree from which it came, and a person's individual reaction to it may help explain the lack of complete correlation.

### **Medical Education Congress To Be Held February 7 Through 9, 1960**

The role of the patient in medical education will highlight discussions at the 56th annual Congress on Medical Education and Licensure February 7 through 9, 1960 in Chicago.

To be held at the Palmer House, the three-day meet-

ing will be attended by 1,200 medical educators, hospital administrators, government officials, and others interested in medical education.

The congress is sponsored by the American Medical Association's Council on Medical Education and Hospitals, the Advisory Board for Medical Specialties, and the Federation of State Medical Boards of the United States.

The opening day will be devoted to patient care in medical education. The morning's session will relate to patient care at the medical school level and the afternoon program will consider patient care in education beyond the medical schools.

In commenting on the patient's role, Walter S. Wiggins, M.D., secretary of the A.M.A. council, said, "We will consider how the patient's care and medical education mix, but our major concern will be with the patient as a patient in a medical education hospital."

"We want to remind ourselves that the patient does not come to the hospital primarily to contribute to its educational program. They are ill and seek relief from discomfort and cure of diseases."

"From the patient's viewpoint, it is of paramount importance that the teaching and research functions not be allowed to interfere with medical service."

A special feature of the congress will be the observance of the 50th anniversary of the publication of the results of a two-year study of American medical schools by Abraham Flexner, Sc.D.

Dr. Flexner's study was made in 1910 at the request of A.M.A.'s Council on Medical Education and of the Association of American Medical Colleges. The report is credited with showing deficiencies in many U. S. medical schools then in existence, closing many, and bringing about improvements in others.

The morning session, February eighth, will be dedicated to Dr. Flexner who died last September at the age of 92. Lewis L. Strauss, former chairman of the Atomic Energy Commission and the current president of the Institute for Advanced Study, Princeton, New Jersey, will address the Congress on "The Lasting Ideals of Abraham Flexner." Dr. Flexner founded the Institute in 1930 and was its first director.

Louis M. Orr, M.D., Orlando, Florida, president of the A.M.A., will address the annual Federation dinner Monday evening.

In conjunction with the congress the Federation of State Medical Boards will conduct an examination institute February 6th and will meet again February 9th.

### **Need For Rehabilitation Facilities To Increase**

A young hospital administrator suffered a spinal injury resulting in paralysis of his arms and legs.

At first, he was completely dependent on others. But through an intensive course of rehabilitation, he learned to feed himself, shave, write, use a dictaphone and perform other hand activities with the aid of simple



mechanical devices. He now is able to operate an electric wheel chair which provides him a large measure of independence and mobility. And, even though his disability remains, he will return to his former type of work.

A 42-year-old mechanic, whose legs were amputated following an accident, also has returned to a bench-type mechanic's job. Through rehabilitation, he learned to walk on artificial legs. He lives at home, drives a hand-controlled car to and from work, and is completely independent.

These cases, described in the January 16 *Journal of the American Medical Association*, are but two of 30 million persons who require long-term care, according to Dr. Louis B. Newman, Chicago, president of the American Academy of Physical Medicine and Rehabilitation. They demonstrate how rehabilitation procedures can return the sick and injured to productive lives.

"The problem of the rehabilitation and care of the long-term patient is of tremendous magnitude," Dr. Newman said. "Both the increase in population and the increase in the human life span bring us face to face with the realization that the number of persons with illness and injury will parallel these increases."

We must be fully aware of and quickly correct an old and, at times, persistent notion that long-term or chronically ill persons are all in the older age bracket. As a matter of fact, about 16 per cent of persons with chronic diseases are under 35 years of age.

"The increased incidence of heart disease, the yearly increase in the number of cancer deaths, the rising number of severe disabilities from accidents . . . the alarming rise in the incidence of mental disorders, the steadily rising number of disabilities resulting from degenerative diseases, and blindness and impaired or loss of hearing associated with the aging and the aged—all contribute toward the large segment of the population that needs prolonged care.

"It is not a one-man job and must be squarely faced by all federal, state, and community institutions and agencies whose programs should be actively coordinated and integrated . . . to achieve the greatest measure of success.

"There must be sufficient hospitals, rehabilitation services and centers, nursing and convalescent homes, sheltered workshops, homes for the aged, and adequate numbers of properly trained professional personnel to handle this tremendous patient load."

Nursing homes should be equipped for continued maintenance activities to prevent the partially disabled patient from deteriorating eventually to total dependence, Dr. Newman said.

"Life is being prolonged, but it should also be enriched," he said.

Dr. Newman also is chief of the Physical Medicine and Rehabilitation Service, Veterans Administration Research Hospital, and professor of physical medicine and rehabilitation at Northwestern University Medical School.

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From The Secretary's Notebook - A Memo For Your 1960 Calendar

## 107th Annual Session of the Maine Medical Association

JUNE 19, 20, 21, 1960

*The Samoset, Rockland, Maine*

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An excellent program is being arranged by the Scientific Committee: Daniel R. Shields, M.D., Lewiston, Chairman; John A. Woodcock, M.D., Bangor; and Sidney R. Branson, M.D., South Windham.



DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

# Methemoglobinemia—A Problem

E. W. CAMPBELL, Dr.P.H.\*

Methemoglobinemia in infants has long been recognized in connection with congenital cardiac defects, but more recently it has been recognized as having been caused by the use of heavily nitrated drinking water.

A recent fatality, case P.L., age 2 years, in September 1959, again brought our attention to the necessity of careful investigation in every case of suspected methemoglobinemia. It was reported that a package of a commercial anti-rust preparation for radiators was found in the home and there was a suspicion that some of this had been consumed by the child, but none was made available for analysis. One hundred and ten milligrams of nitrite, estimated as sodium nitrite, was found in 75 grams of gastric content. Because of the possibility of nitrate poisoning it was also necessary to look into the source of drinking water, as a possibility, by reason of numerous reported cases of methemoglobinemia in infants from heavily nitrated well water supplies. No evidence was found that any abnormal drinking water was in use at the time of this fatality.

In view of the implications in the above case it would appear that a review of the problem of methemoglobinemia, particularly in infants, should be made and attention brought to the relative frequency of this problem from domestic water supplies which may be contaminated with human and animal wastes. There is also the possibility of it being mistaken for congenital heart defects in the newborn. A review of the literature indicates that the condition was first described in 1902 and for the purpose of refreshing memories it may be stated that it is accompanied by a condition of cyanosis. The early cases reported were mostly due to use of different types of drugs, and there has been described a rare condition associated with diarrhea in adults and possibly due to absorption of nitrites from the intestines. Early cases of methemoglobinemia in infancy has usually been associated with treatment of some form of nitrates in different types of disease. Treatment with

bismuth subnitrate for diarrhea was reported by Roe<sup>1</sup> in 1933 as a cause of this illness in a month-old baby.

In 1940 a different type of methemoglobinemia was reported by Schwartz and Rector,<sup>2</sup> which occurred in a two-weeks old infant in a small Montana town. This child had not been treated with any drugs, but was fed an evaporated milk mixture which presumably was diluted with well water. When admitted to the hospital a history was given of intermittent cyanosis, which suddenly had become severe. No evidence of disease of the heart or lungs was noted, but the cyanosis did not respond to the ordinary treatment with oxygen or with coramine. Intravenous treatment with 1% methylene blue resulted in a prompt recovery from the cyanotic condition. A study of the literature would indicate that this is probably the first reported case of methemoglobinemia due to well water.

Five years later Comly<sup>3</sup> reported two cases of infant methemoglobinemia from rural Iowa, each giving a history of using milk formulae containing well water of high nitrate content.

Since that time numerous cases have been reported, with similar histories, from widely scattered areas of the United States and other countries. A special survey by the Minnesota State Department of Health revealed 139 cases in two and one-half years, with 14 deaths.<sup>4</sup> Although most of these cases were caused by waters having relatively high nitrate contents, from 100 to even more, in a number of cases the nitrate content was much less. Georgia reported a case where the nitrate content was only 33 ppm.

In the State of Maine, following a complaint of a "whole family having kidney and bladder trouble," an investigation disclosed that the well water supply had a nitrate content of 12.5 ppm.

Another case in Maine, a baby born August 29, 1949, was removed from the hospital to the farm home in St. Albans on September 5. It received eight feedings a day consisting of 32 ounces of evaporated milk, Karo, and boiled water from the drilled well on the farm.

\*Director, Division of Sanitary Engineering.



Water was used in a ratio of 2 to 1. About 2½ ounces of boiled water was offered the infant three or four times a day between the daily feedings. Therefore, about 30 ounces of boiled well water was offered the infant each day. About a week after the baby was brought home a bluish color was noticed on the roof of its mouth, its gums, and under its finger nails. Later the bluish color was noticeable over the body. It would last for several hours and then fade. On October 9 the infant did not retain its feedings. It was a bluish color all day, the worst it had been. It was taken to a physician who advised calling a specialist. On the next day the specialist made a diagnosis of *probable* congenital heart disease, and possibly cyanosis due to nitrates in the well water. On removal to a hospital an x-ray examination was made without indicating any congenital heart condition. The formula or water feedings from October 9 to 11, except when small quantities of evaporated milk and Karo were given *without* water, were not retained. The mother took a bottle of the boiled drilled well water to the specialist's office and gave some to the infant in the office. This was vomited before the infant reached the hospital.

Soon after the infant arrived at the hospital it was given a feeding of dextrose-maltose and water from the hospital water supply. The baby retained the feeding. The bluish color of its skin gradually disappeared by the next day, October 12, and the infant was taken home on October 14. After returning home the formula for the baby was made with water from another well. The baby retained its feedings and its color remained normal. An exception occurred on October 16 when the father made the formula with water from the drilled well in question. The infant only took about a quarter ounce of the formula and refused to take more. The portion swallowed was regurgitated.

An analysis of the water from the drilled well at the farm disclosed a content of 30 ppm of nitrates, and 0.025 ppm of nitrites.

Another case was reported in Aroostook County, but before an investigation could be made, the child had been taken out of the state and further details did not become available.

A few further observations for those who are interested in rural water supplies should perhaps be made. These are based on the results of 267,000 well water analyses, many accompanied by inspection of the surroundings. At present there appears to be no means of eliminating nitrates from well water once it has entered it, excepting by removing the source. Boiling the water or treating with recognized chemicals will not remove the danger. In areas with similar geological conditions to those of Maine, removal of cesspools, stables, privies, subsoil sewage disposal beds, and similar sources of contamination, will eventually result in the disappearance of nitrates, but the process is slow and may require from three to five years to obtain an appreciable reduction, and even as much as ten or more

years for elimination of the underground contamination. This will be particularly true when the ground has been saturated by many years of barnyard, cesspool, and privy accumulations. Occasionally, heavy fertilization of the soil, in the pursuit of agriculture, may cause excessive nitrate concentrations.

Due to abnormal tastes and obscure symptoms, an investigation of a small water system serving approximately 70 people was found to have suddenly developed a high nitrate content of 17 ppm., contrasting to its normal content of about 2 ppm. The investigation disclosed that a few acres of potato land on an adjoining farm near the drilled well used as a source of supply, had been fertilized with the application of 2500 pounds of ammonium nitrate at a rate of about 200 pounds per acre. The use of the water for drinking and cooking purposes was temporarily banned. Fortunately, heavy rains shortly thereafter washed away most of the chemicals so that no serious difficulties developed. Any unusual increase in nitrates should receive prompt investigation to prevent irreparable damage.

People engaged in the business of providing domestic water supplies, in rural areas particularly, should inform themselves relating to the geology of the area and the detailed characteristics of the under-surface structures, so as to avoid unnecessary contamination of ground water supplies; also the principles of sanitary protection of shallow dug wells, drilled wells, both shallow and deep, and driven wells, so that safe water supplies will be obtained. If these principles are well understood and followed, both in location and construction, and proper installation of equipment for pumping water from such supplies, many needless cases of sickness will be prevented and much suffering avoided.

#### SUMMARY

Methemoglobinemia in infants, although associated with conventional cardiac defects, may also be caused by nitrates from medicinal preparations, from accidental poisoning, and from excessive nitrates and nitrites in well water supplies caused by contact with drainage from excessive fertilization of the soil, from animal organic material, from manure accumulations, and from private systems of sewage disposal.

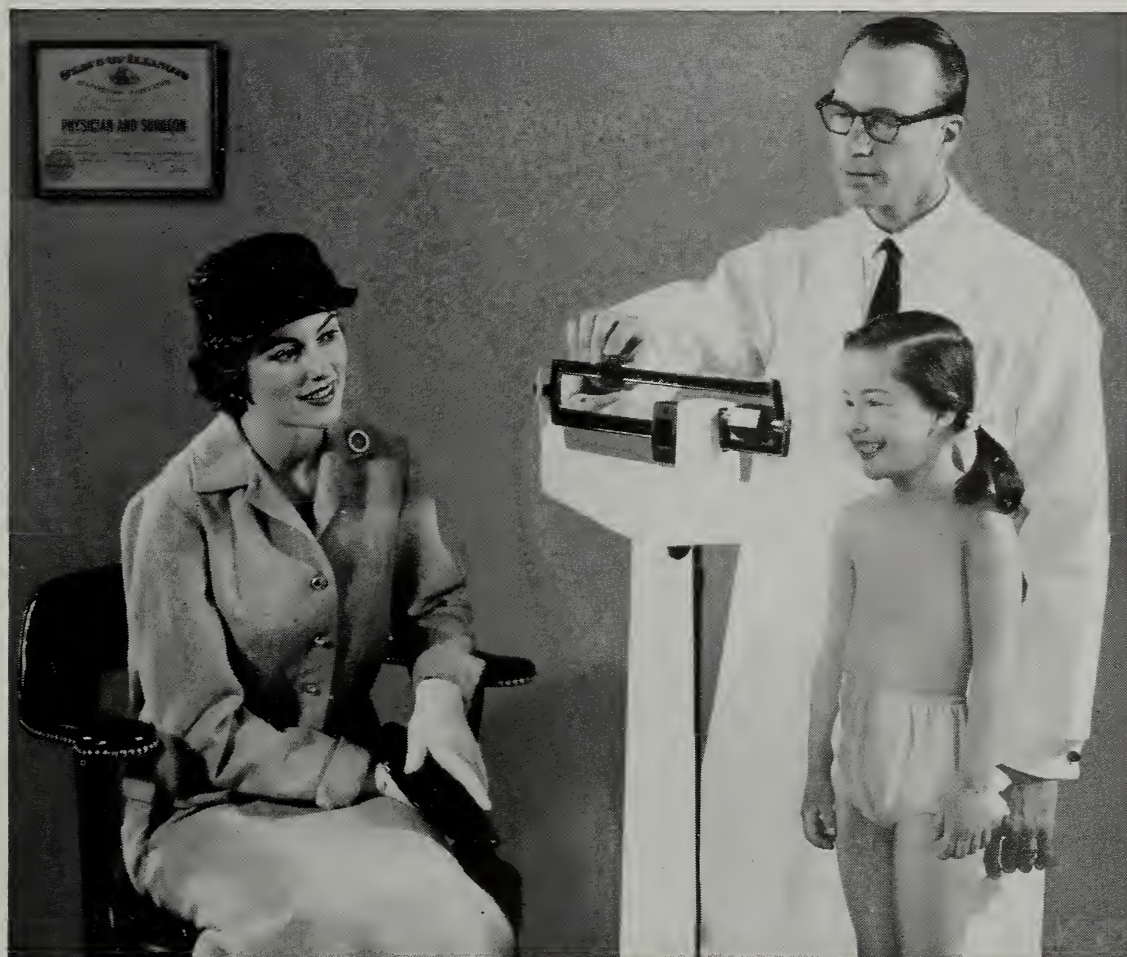
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*Continued on page 34*



## Underweight Children Gain and Retain Weight with Nilevar<sup>®</sup>

One of the most convincing evidences of the anabolic activity of Nilevar, brand of norethandrolone, has been its ability to improve appetite and increase weight in poorly nourished, underweight children.

A highly important feature of the weight gain thus produced is that it is not ordinarily manifested by deposition of fat but as muscle tissue resulting from the protein anabolism induced by Nilevar.

**Anorexia and "Weight Lag" Study**—Brown, Libo and Nussbaum have reported\* consistent and definite increases in rate of weight gain in eighty-six patients, ranging in age from 7 weeks to 15½ years. This beneficial action of Nilevar was observed in the patients with organic and traumatic disorders as well as those whose only complaints were poor appetite and/or persistent failure to gain weight.

In this study, the weight gained was not lost

after discontinuance of Nilevar therapy although many patients did not continue the sharp gains effected by the drug.

The authors are of the opinion that Nilevar is a highly useful anabolic agent for influencing weight gain in underweight children.

When Nilevar is administered to children a dose of 0.25 mg. per pound of body weight is recommended and continuous dosage for more than three months is not recommended.

Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil. Further dosage information in Searle Reference Manual No. 4.

G. D. Searle & Co., Chicago 80, Illinois.  
Research in the Service of Medicine.

\*Brown, S.S.; Libo, H.W., and Nussbaum, A.H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.



## COUNTY SOCIETIES

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Secretary, Donald L. Anderson, M.D., Lewiston

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## YORK

President, William E. Dionne, M.D., Springvale  
Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## ANDROSCOGGIN

November 19, 1959

The November meeting of the Androscoggin County Medical Association was held on November 19, 1959.

The business meeting began at 8:30 P.M. with the President, Ross W. Green, M.D. presiding. The minutes of the previous meeting were read and approved. Otis B. Tibbetts, M.D., was appointed secretary pro tem. James A. MacDougall, M.D. Councilor for the district spoke briefly. It was moved and seconded that William J. Fahey, M.D. be recommended for Honorary membership and Frederick L. Chenery, Jr., M.D., for Senior membership. It was also moved and seconded to approve the resolution on the death of Dr. Leopold O. Roy and that they be spread on the records of the Society and that a copy be sent to the family.

The Nominating Committee was appointed as follows: Otis B. Tibbetts, M.D., Chairman, Paul J. LaFlamme, M.D. and Wirt L. Davis, M.D.

Mr. Robert O'Connor gave a very interesting recital of all the malpractice judgments (21) in the past five years. A general discussion period followed.

OTIS B. TIBBETTS, M.D.  
*Secretary pro tem*

## AROOSTOOK

December 2, 1959

The Fall Clinical Meeting of the Aroostook County Society was held on December 2, 1959 at the Northeastland Hotel in Presque Isle.

The doctors toured the new Gould Memorial Hospital in the afternoon. After a social hour and dinner, Robert B. Somerville, M.D., President, introduced guests and gave a welcome to all. The guest speaker, Clement L. Donahue, M.D. of Caribou, was introduced by the president. His subject was "Management of Strabismus" with slide illustrations.

The ladies retired to hold a meeting of the Ladies Auxiliary under the leadership of Mrs. Dean Richardson. The business meeting was called to order by President Somerville with forty-four members and guests present. The minutes were read and approved. Dr. Ralph C. Stuart, Councilor of the sixth District, M.M.A., was introduced and he gave greetings from the Council and spoke on matters of concern to the Society, such as the work of the county grievance committee. A brief discussion followed. Dr. Douglas H. Collins reported on the Aroostook Antituberculosis Society and that the Aroostook County Medical Society was being asked to again participate in their TV program this coming year. The Society voted to approve this proposal.

The following applicants were then elected to membership in the Society: George Frank Higgins, M.D., Francis F. Frenette, M.D., Van B. Philpot, Jr., M.D., Robert D. Wilson, M.D.

It was voted that the annual meeting of the Society be held in Caribou and a summer meeting be held in Fort Kent, the dates to be set by the officers. It was also voted that the president obtain all grievance reports now held by the Council, and that these be turned over to the Board of Censors for further processing.

CLYDE B. SWETT, M.D.  
*Secretary*

## CUMBERLAND

November 19, 1959

The monthly meeting of the Cumberland County Medical Society was held on November 19, 1959 at the Maine Medical Center. Sixty-nine members and guests were present.

After a dinner the meeting was called to order at 8:00 P.M., by the President, Dr. Franklin F. Ferguson. The minutes of the previous meeting were read and accepted. There was no old business.

The application for membership of Hans Mautner, M.D. was read and approved. Three applications were read to be voted on at the next meeting: Kirk W. Barnes, M.D., transfer from New Hampshire, Elliot D. Turnbull, M.D. and Robert M. Knowles, M.D.

Eligible for Senior membership are Leon Babalian, M.D., Henry P. Johnson, M.D. and Langdon T. Thaxter, M.D. Application for Honorary membership is M. Carroll Webber, M.D. Both were read and approved. The obituaries of Dr. F. Donald Dorsey and Dr. Albion Henry Little were read. It was voted that these be spread upon the records of the Society and a copy sent to the families. It was voted to contribute up to \$100 for the publicity expenses of diabetes week and \$28.00 for the charge of polio record cards for use in the Polio Clinic. A request of the Cumberland County Tuberculosis and Health Association for a \$10.00 contribution was denied. The following committee for a resolution on the death of Dr. James M. Parker was appointed by the President: Dr. Emerson H. Drake, Chairman, Dr. Richard S. Hawkes and Dr. Isaac Webber.

A constitution and by-laws committee was also appointed by the President to review and revise the society by-laws which date back to December, 1929. On this committee are Dr. Morrill Shapiro, Chairman, Dr. Edward G. Asherman and Dr.

Gerald C. Leary. A suggestion was made by Dr. John B. Titherington that all members of the society be provided with copies of the new by-laws.

Dr. Carl E. Richards, Councilor, spoke briefly about the Fall clinical session in Bangor on December 11 and 12. He also mentioned the concern of the counsel about the Forand Bill, HR 4700, which is considered a dangerous piece of legislation backed by powerful forces. He pointed out that labor is for the bill, as is the National Nursing Association. The Osteopaths are indifferent and the American Hospital Association is against it, as is the American Medical Association. As written it covers surgical procedures only.

The remainder of the meeting was devoted to a discussion by Mrs. Richard Nellson, Director of Blue Shield and Physicians Relations of the Associated Hospital Service of Maine. He discussed the origin of Blue Shield and its role as a deterrent to socialized medicine. This was followed by a question and answer period regarding various aspects of the plan.

ALBERT ARANSON, M.D.  
*Secretary*

## KENNEBEC

December 10, 1959

The annual meeting of the Kennebec County Medical Association was held on December 10, 1959 at the Augusta State Hospital. The following officers were elected for 1960:

President, John F. Reynolds, M.D., Waterville  
Vice-President, Philip Dachslager, M.D., Augusta  
Secretary-Treasurer, Arch H. Morrell, M.D., Augusta  
Councilors, Loring W. Pratt, M.D., Waterville (1 yr.),  
Brinton T. Darlington, M.D., Augusta (2 yrs.), George  
J. Robertson, M.D., Waterville (3 yrs.)

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Delegates and Alternates elected to serve for 1960 and 1961: Delegates — Hugh J. Mathews, Jr., M.D., Gardiner; Richard L. Chasse, M.D., Waterville; Vaughn R. Sturtevant, M.D., Waterville; Lorrimar M. Schmidt, M.D., Togus; Allan J. Stinchfield, M.D., Augusta. Alternates — Anthony E. Lepore, M.D., Gardiner; Francis J. O'Connor, M.D., Augusta; Paul H. Pfeiffer, M.D., Waterville; Joseph A. Marshall, M.D., Waterville; Earle M. Davis, M.D., Waterville.

The Grievance Committee appointed at the last meeting was changed, as follows: Frank B. Bull, M.D., Gardiner, Chairman (1 yr.), Irving I. Goodof, M.D., Waterville (2 yrs.), William N. Runyon, M.D., Augusta (3 yrs.).

The speaker of the evening was Allan D. Callow, M.D. from the New England Center Hospital, Boston whose topic was Indications and Development in Reconstructive Arterial Surgery.

The year closed with 108 members including six Honorary and three Senior members. Five new members joined, there were no transfers and one member died during 1959.

Frederick T. Hill, M.D. will become a Senior member and Samuel H. Kagan, M.D. an Honorary member in 1960.

ARCH H. MORRELL, M.D.  
*Secretary*

#### OXFORD

October 28, 1959

A special meeting of the Oxford County Medical Society was held on October 28, 1959 during which the following officers were elected:

President, Ake Akerberg, M.D., South Paris  
Vice-President, H. Richard Bean, M.D., Norway  
Secretary-Treasurer, Albert P. Royal, M.D., Rumford

Delegates, Harry L. Harper, M.D., South Paris, (1 yr); Norman M. Jackson, M.D., Rumford, (2 yrs.). Alternates, Alfred Oestrich, M.D., Rumford, (1 yr.); Albert Grish, M.D., Rumford, (2 yrs.).

ALBERT P. ROYAL, JR., M.D.  
*Secretary*

#### New Members

##### AROOSTOOK

Francis F. Fernet, M.D., Main Street, Washburn, Maine  
George F. Higgins, M.D., 122 Academy Street, Presque Isle, Maine  
Van B. Philpot, Jr., M.D., Cary Memorial Hospital, Caribou, Maine  
Robert D. Wilson, M.D., Presque Isle, Maine

##### CUMBERLAND

Hans V. Mautner, M.D., Route 88, Yarmouth, Maine

#### OXFORD

Albert J. Grish, M.D., 18 Hartford Street, Rumford, Maine

#### Deceased

##### KENNEBEC

Edmund P. Williams, Oakland, Maine, December 30, 1959

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**<sup>x</sup>MYOGESIC**  
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## News and Notes

### Dr. Branson Elected President Of Portland Medical Club

Doctor Sidney R. Branson, South Windham, Maine has been elected president of the Portland Medical Club succeeding Dr. John R. Lincoln. Dr. William F. Taylor of Falmouth was elected Vice-President and Dr. Alice A. S. Whittier of Portland, Secretary-Treasurer.

### Annual Meeting, American College Of Surgeons

The annual meeting of the Maine Trauma Committee of the American College of Surgeons was held at Togus and

the Augusta House on November 18, 1959. Dr. Albert P. Royal, Jr. was elected chairman and will be a member of the Advisory Committee of the Health Insurance Committee of the Maine Medical Association as long as he holds the chairmanship, which will be one year.

The Secretary-Treasurer is Dr. John A. Woodcock, 35 Second Street, Bangor, Maine.

### Dr. Kirk Accepts Plaque

At the annual meeting of the Aroostook Health Councils at Eagle Lake, Dr. William V. Kirk of Eagle Lake was presented a plaque for his 35 years' service to the community and the Northern Maine General Hospital. Making the presentation was Philip Blanchette, president of the Chamber of Commerce.

## Announcements

### Seminar In Nuclear Medicine

A Seminar in Nuclear Medicine will be held on February 17, 1960 from 7:30 to 10:00 p.m. at the Maine Medical Center in Portland, Maine.

Dr. Donalee L. Tabern, Picker X-ray Corporation Nuclear Training Division, will conduct an informal seminar with films discussing various new procedures in nuclear medicine. The Kidney Function studies, Cardiac Output studies, Blood Volumes, and the Thyroid uptake studies are to be featured.

This meeting is open to the members of the Maine Medical Association.

M. Bosworth, Harold B. Boyd, Joseph H. Boyes, Charles J. Frankel, George C. Morris, Jr., Sam A. Morton, and Preston A. Wade. They will present lectures on management of open fractures, injuries to the hand, femoral neck and intertrochanteric fractures, roentgenological aspects of trauma to the spine, peripheral nerve injuries, plastic surgery of the face and extremities, athletic injuries, surgical management of vascular injuries, and injuries to the neck.

Registration fee will be \$50. Residents will be admitted free upon presentation of note of identification from chief of service.

For further information write to John J. Fahey, M.D., Chairman, 1791 W. Howard Street, Chicago 26, Illinois.

### American College Of Surgeons

The Fourth Postgraduate Course on Fractures and Other Trauma, sponsored by the Chicago Committee on Trauma of the American College of Surgeons, will be held April 27 through April 30, 1960, at the John B. Murphy Memorial Auditorium, 50 East Erie Street, Chicago.

The Course for 1960 is dedicated to the memory of Dr. William R. Cubbins. An outstanding leader in fractures and other trauma, Dr. Cubbins was associated for many years with the Northwestern University School of Medicine, the Stritch School of Medicine of Loyola University, and Cook County Hospital.

Teachers prominent in the field of trauma from the five Chicago medical schools, and chiefs of services from leading Chicago hospitals will lead discussions on all phases of trauma; Injuries to the eye, face, neck, chest, abdomen and extremities; repair of bone and cartilage in trauma; aseptic necrosis; urological complications of fractures; intramedullary fixation of fractures; bone grafts; and other related subjects.

Distinguished visiting speakers will be Doctors James E. Bateman, Truman G. Blocker, Jr., Walter P. Blount, David

### The American College Of Allergists

The American College Of Allergists will hold the Graduate Instructional Course In Allergy from February 28 through March 1, 1960 and the Sixteenth Annual Meeting March 2 through March 4, 1960 at The Americana Hotel, Bal Harbour, Miami Beach, Florida.

Topics of the Graduate Instructional Course In Allergy will be Primary Consideration Of Some Aspects Of The Field Of Allergy, Clinical Applications To Present Day Knowledge In Allergy, and Progress In Allergy: The Allergist Of Today And Tomorrow. The Sixteenth Annual Congress topics will include a General Scientific Session and Sectional Sections. The General Scientific Session topics include A Review of the Immunologic Aspects of Thyroiditis, A Clinical Study of a New Antihistamine, Higher Dosage Levels for Co-Seasonal Treatment of Pollinosis, The Glucocorticoid-Sparing Action of Hydroxyzine in Bronchial Asthma, Demethylchlortetracycline in Allergies Associated with Infection and Pollen Immunization with Emulsified Extracts. The Second Sessions' topics include Pediatric Allergy, Technology, Psychosomatic Medicine,



### Dermatologic Allergy and Allergy Of The Nervous System.

The rates include the specially developed and designed Full American Plan, three meals daily, convention package. The fees are \$20.00, \$25.00, and \$30.00 per person, per day, two persons to a room.

For further information write to The American College Of Allergists, 2049 Broadway, Boulder, Colorado.

### Clinical Congress Of Abdominal Surgeons

The Clinical Congress of Abdominal Surgeons will be held in Miami Beach, Florida from February 1 through February 5, 1960. It is the only national scientific meeting devoted entirely to surgery of the abdomen. This educational meeting has been arranged to present the latest developments in the field of Abdominal Surgery and methods of approach to the many problems encountered daily by the Abdominal Surgeon.

A practical and informative scientific program has been arranged in accordance with the desires of Abdominal Surgeons. For example, the panel and film programs for Monday, February 1, 1960 include: Pre-and Postoperative Care, Massive Upper GI Hemorrhage, Complicated Appendicitis, Intestinal Obstruction, Surgical Treatment Of Diverticulitis, Polyps Of The Colon And Rectum, Regional Ileitis, Chronic Segmental Ileitis and Obstructive Jaundice.

The guest speaker is Richard R. Shinn, second Vice-president of the Metropolitan Life Insurance Company in group insurance. Mr. Shinn is one of the foremost authorities on group health benefits and will discuss the future of prepaid health programs in the United States.

A special panel on Malpractice will be presented by the Justice of the Superior Court of Massachusetts, Honorable Felix Forte, M.A., LL.B., LL.M., S.J.D., LL.D., J.D., D.A.O., moderator. Judge Forte enjoys a worldwide reputation as a legal authority. He was Professor of Law at

Boston University and is now Professor Emeritus of the Law School.

Special programs of entertainment have been planned for each evening. Monday night: Cavalcade of Stars — The Crosby Brothers, Tuesday night: Reception and cocktail party by the pool, Wednesday night: A traditional Hawaiian Luau followed by a water show and Thursday night: Cavalcade of Stars — Jane Morgan.

The registration fee is \$25.00. Special convention rates for hotel accommodations prevail from January 29, 1960 to February 7, 1960. Hotel accommodations start at \$15 per day including two meals per person, double occupancy. Congress Headquarters is at the Deauville Hotel which is one of Miami Beach's newest and most luxurious oceanfront hotels.

For further information write to Clinical Congress of Abdominal Surgeons, 663 Main Street, Melrose 76, Massachusetts.

### American Rhinologic Society

An international course on "The Fundamental of Reconstructive Surgery of the External Nasal Pyramid and the Nasal Septum" will be presented in Mexico City, July 4 through July 15, 1960. It will be under the auspices of the Escuela Nacional de Medicina e Division del Doctorado, and with the co-operation of the American Rhinologic Society.

The guest professor will be Dr. Maurice H. Cottle, professor of otolaryngology at the Chicago Medical School and founder of the American Rhinologic Society. Dr. Cottle will be assisted by a faculty of specialists from the United States and Mexico. The lectures will be presented simultaneously in English and Spanish.

Applicants for the course must be diplomats of the American Board of Otolaryngology, or have equivalent status.

For application forms and other information, write immedi-

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ately to Dr. Robert M. Hansen, secretary of the American Rhinologic Society, 1735 North Wheeler Avenue, Portland 12, Oregon.

### American Academy Of Medical Administrators

The Symposium On Hospital Management — Labor Union Relations will be held from January 20 to January 22, 1960, at the Hotel Waldorf-Astoria, New York as announced by the American Academy Of Medical Administrators.

For further information write to Hugh C. McEwan, President, American Academy of Medical Administrators, Suite 1134 at Eleven Beacon Street, Boston, Massachusetts.

### Medical Economics Forum

The Medical Economics Magazine will sponsor the Medical Economics Forum in Boston at the Sheraton-Plaza Hotel on February 17, 1960. The purpose of the Forum is to give physicians the opportunity to hear and question some of the country's leading authorities in medical economics subjects.

Topics for the one day meeting are Practice Management Session, Professional Liability Session and Financial Planning Session.

Registration fee will be \$20 and no fee is required for wives.

For further information write to Richard T. Cliggett, Executive Director, Medical Economics Forum, National Business Magazine For Physicians, Oradell, New Jersey.

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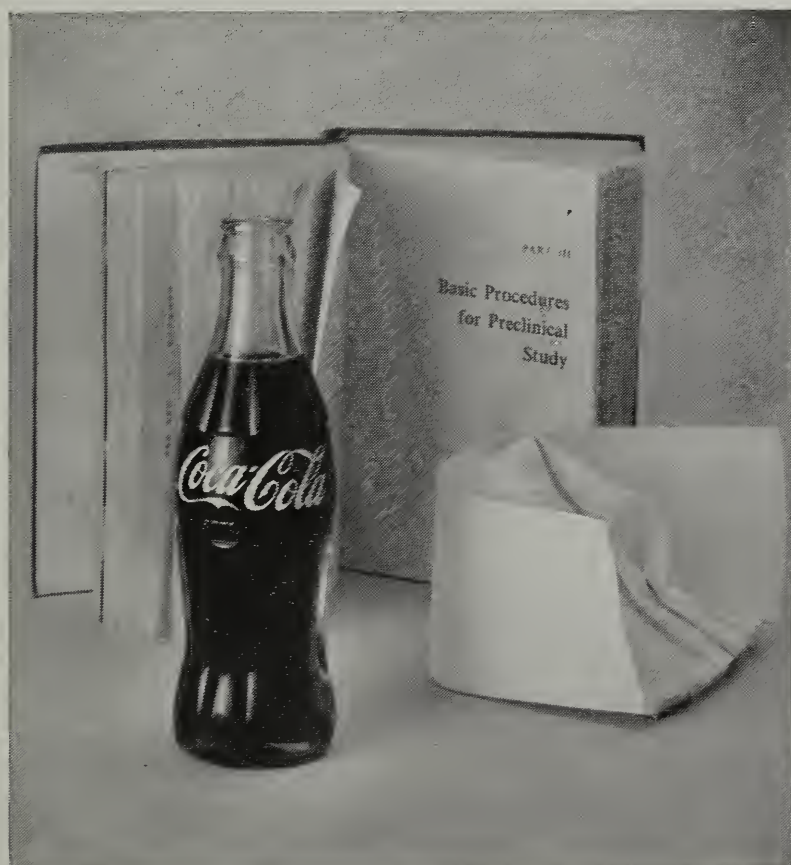
1960

February 4	Lecture — Thyroid Diseases	11:00 A.M.
February 11	Lecture — Leucemia I	11:00 A.M.
February 18	Lecture — Shock Treatment	11:00 A.M.
February 25	Lecture — Methods of Psychological Evaluation	11:00 A.M.
February 11	Clinicopathological Conference	10:00 A.M.

### Physicians Licensed to Practice Medicine and Surgery in the State of Maine November, 1959

#### THROUGH EXAMINATION

- Arthur Dawn Pendleton, M.D., Stanley, New Brunswick  
Hans Juergen Peters, M.D., 2834 Cornelia Road, Augusta, Georgia  
Adolfo Casimiro Coussirat, M.D., 10 Butterworth Road, Beverly, Massachusetts  
Lucia Poschmann, M.D., Creedmoor, Jamaica 27, New York  
Hans Boris Nevinny-Stickel, M.D., 96 Morton Street, Jamaica Plain, Boston, Massachusetts  
Maurice A. Posner, M.D., 173 West 78th Street, New York 24, New York  
Richard Benjamin Schlessel, M.D., 101 East Main Street, Middletown, New York



When too many tasks  
seem to crowd  
the unyielding hours,  
a welcome  
“pause that refreshes”  
with ice-cold Coca-Cola  
often puts things  
into manageable order.





## THROUGH RECIPROCITY

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Dhia Allahverdi, M.D., Veterans Administration Hospital,  
Fargo, North Dakota  
Richard M. Barry, M.D., 34 Martling Avenue, Pleasantville,  
New York  
Michael Barton, M.D., 401 West End Avenue, New York 24,  
New York  
James H. Bonney, M.D., 43 Forest Park, Portland, Maine  
Patrick Colagiuri, M.D., 6 West Mill Drive, Great Neck,  
New York  
Albert L. Hunter, M.D., Department of Pathology, Green-  
ville Hospital, Greenville, Pennsylvania  
Myles Maxfield, M.D., Braddock Heights, Maryland

Craig Wallace Morris, M.D., R.F.D. #1, Church Hill Road,  
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James E. Drexler, M.D., 383 Spring Street, Portland, Maine  
Richard J. Seeley, M.D., 36 Merrymeeting Road, Brunswick,  
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James L. Tsomides, M.D., Maine Medical Center, Portland,  
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Paul A. Brinkman, M.D., 29 Forest Park, Portland, Maine  
Theodore M. Russell, M.D., 105 Foreside Road, Portland,  
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Maine  
Henry N. Williams, M.D., 556 W. James Street, Lancaster,  
Pennsylvania

DEPARTMENT OF HEALTH AND WELFARE — *Continued from page 26*

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# The Journal of the Maine Medical Association

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Number 2

## Five Common Reasons For Failure In The Treatment Of Bronchial Asthma

SAMSON FISHER, M.D.\*

There is an old dictum that all that wheezes is not asthma.

Bronchial asthma theoretically is a reversible disease and as such a favorable response to treatment should be the rule. Failure to achieve a desired result can be frequently attributed to one of the following considerations:

1. Incorrect diagnosis
  - a. Asthma simulating another disease
  - b. Other diseases simulating asthma
2. Incomplete diagnosis
  - a. Other allergic factors
  - b. Non-allergic factors
  - c. Too great reliance on skin tests
3. Inadequate treatment
  - a. Overtreatment
  - b. Undertreatment
  - c. Treatment of associated disease
  - d. The right thing at the wrong time
4. Incorrect prognosis
5. The uncooperative patient

### 1. INCORRECT DIAGNOSIS

There is an old dictum that all that wheezes is not asthma. Certain patients will react to any respiratory irritant with edema and spasm of the bronchi. Essentially this means that the differential diagnosis of wheezing is the same as for a cough or dyspnea. Whether or not most of these patients are constitutional asthmatics, or have an asthma diathesis, is questionable.

ASTHMA MAY SIMULATE OTHER DISEASE. Difficulty in diagnosis seems to arise in the very young and the very old. On the basis of the patient's age, another diagnosis may be favored. Croupy babies and "bronchial" children not infrequently will come to be recognized as bronchial asthmatics. Making a correct diagnosis may depend on a suggestible family history, or the recurrence of attacks in the absence of any evidence of infection, or a favorable response to medication for asthma. It may be impossible to make the diagnosis from the history of the present illness, or from the physical findings.

In older people with asthma one may diagnose heart failure, bronchitis, or emphysema in preference to asthma, in the presence of indefinite pulmonary findings. If the diagnosis is not correct, it follows that the treatment will not be correct. The paradox is that such treatment is not necessarily ineffective. If aminophylline is administered for what is presumed to be pulmonary edema, it could effectively relieve the bronchial spasm due to asthma. When a diagnosis of paroxysmal nocturnal dyspnea is made, morphine is indicated. Although dangerous for the asthmatic, in a panicky asthmatic patient it will often relieve apprehension, put an end to hyperventilating and air trapping, and thereby bring relief. Because asthma tends to be spasmodic, with the severest spasms capable of subsiding spontaneously, any treatment directed at another disease can appear to be effective. Successful treatment does not

\*Allergist, Thayer Hospital, Waterville, Maine.



always confirm the diagnosis for which the treatment was given.

**OTHER DISEASE MAY BE MISTAKEN FOR ASTHMA.** The asthmatic patient is subject to all the pulmonary insults afflicting non-asthmatics. In the asthmatic such disturbances are likely to produce a wheeze. A patient with no past history of asthma may wheeze with heart failure or pneumonia. A disturbing feature in arriving at a correct diagnosis in wheezing patients is that they often give a suggestible allergy history.

There is no satisfactory explanation why a particular cardiac with pulmonary edema will wheeze, and present a clinical picture of cardiac asthma<sup>1</sup>. There may be a difference in the mechanism of failure between the patients who do or do not wheeze. A more acceptable explanation may simply be that those who wheeze have an asthma diathesis.

An elderly man woke from sleep one summer night with severe wheezing. He had a long history of pollen rhinitis but this was his first asthma attack. The history, examination, and subsequent course all made it evident that the wheezing resulted from acute heart failure.

An elderly woman had been taught to give herself injections of epinephrine and ACTH whenever she had asthma. Her final attack did not respond to these medications. She was brought to the hospital in extremis and died. The autopsy revealed bronchial pneumonia. Her family stated that this attack was similar to many others at the onset.

A middle aged man began to have severe spasms of wheezing at irregular intervals relieved by epinephrine. Eventually a laryngeal polyp was found and removed. He had no further attacks of asthma; but continued to have a mild seasonal rhinitis as before.

Needless to say, a correct diagnosis cannot always be made quickly. Prolonged observation and a trial of therapy may be necessary. In such situations the proper diagnosis and treatment are necessarily deferred until the next attack — if the patient obligingly survives.

## 2. AN INCOMPLETE DIAGNOSIS

This may be the reason for failure after a diagnosis of bronchial asthma is established. The allergic patient is generally sensitive to a variety of related and unrelated substances; and the allergens may act to produce symptoms separately or simultaneously. The disease may be in a constant flux. Over a period of time new sensitivities are acquired. An adequate evaluation of the patient one year may be totally inadequate another year. Furthermore, asthma not infrequently complicates, or is complicated by, other diseases. Asthma is a dynamic disease and the difficult patient must be under constant surveillance.

It is necessary to identify specific allergens in order to prevent recurrences of asthma. In obtaining a history the patient's own impressions of what bothers him

are often unreliable so far as **NEGATIVE** observations are concerned; but are likely to be valid in regard to **POSITIVE** observations. There is a reasonable explanation for this. When the asthma is of sufficient intensity to disturb the patient, and if the asthma recurs with regularity under the same circumstances, and if the interval between the exposure and attack is sufficiently brief, then the patient is apt to correlate his asthma attack with exposure to a particular substance. However, if the asthma is sometimes mild and below the patient's threshold for dyspnea, or the offending agent is only one of many factors, and repeat attacks occur in altogether different situations; or if there is a low degree of sensitivity and the offending agent does not always produce asthma, and if the asthma occurs many hours after exposure, then the patient is not likely to observe any cause and effect relationship. In short, a patient will often volunteer the correct diagnosis; but when a patient states that a particular substance does not bother, then such information may be unreliable and misleading. Questionable substances must be evaluated by a trial of treatment, and not on the basis of the patient's opinion.

**MULTIPLE ALLERGIC FACTORS** must be searched for relentlessly in the unresponsive patient. A carefully kept diary may be of great value, particularly for the patient with intermittent asthma. This tedious procedure will often help identify elusive allergenic factors such as ingredients of mixed foods, or invisible substances like cosmetics and insecticides. A pattern of seasonal variation often makes its own diagnosis. Recurrent summer asthma is almost invariably due to pollens, and a working diagnosis can be made on the basis of the dates of onset and remission.

A patient with asthma is in an acutely sensitive state. During the ragweed season he may find that, only then, are symptoms produced or aggravated by housedust, chocolate, or an animal. The patient undoubtedly has a low degree of sensitivity to these substances, and can tolerate them when his threshold is high. This is also true for non-specific irritants.

Intelligent guesses can be rewarding. Most pollen patients are bothered by a variety of pollens. A patient known to be allergic to ragweed can be assumed to be allergic to other pollens if he has asthma during other pollen seasons. If there is a known sensitivity to one animal, it is reasonable to assume that there is a sensitivity not only to other animals but to fabricated animal hairs, such as a mohair sofa, a cashmere garment, a hair mattress, or a felted rug pad. It is a fallacy to approach these problems with the feeling that an absolute diagnosis can or must be made before treatment is begun. A specific diagnosis is frequently made only in retrospect, following a good response to treatment directed at a suspected substance.

What constitutes an adequate diagnostic trial of therapy for asthma? This varies from minutes to months.

If epinephrine is administered in an adequate dose there should be a response within 15 minutes. If the patient obtains no relief, further immediate use of this drug is likely to prove futile and possibly harmful; so this particular trial of therapy may be considered completed. In the case of house dust, a clinical trial may take only a few days if the patient is hospitalized in a dust-free room. If the treatment is carried out at home, while the patient continues with routine activities, an adequate trial depends on the thoroughness and intensity with which a patient can follow a prescribed regime. In evaluating the effectiveness for vaccine treatment for pollen asthma it is necessary to wait until the next pollen season, months away, to note the response. Symptoms due to allergenic foods should subside within a few days if completely omitted. If the questionable food is only partly omitted, or if a suspect house pet is only partly avoided, then a trial of treatment is no treatment at all, however long it is carried out.

NON-ALLERGIC FACTORS are often recognized but ignored. A multitude of nonspecific irritants may offend the allergic patient. Asthmatics in industrial communities may be bothered by atmospheric sulphur. Another patient is bothered by smoke or cold air. It is mostly of academic interest whether the patient is in fact allergic to these items or whether they are non-allergic irritants. Generally, it is not possible to rationalize the significance of such obvious irritants as smoke or fumes in a given case<sup>2</sup>. The fact that these substances did not cause a patient to cough prior to the onset of his asthma in no sense means that the smoke is not now aggravating or even perpetuating an attack. Whatever the basis of the irritation, the irritant should be eliminated or avoided. If this is not feasible, then the search must be continued for other factors in the disease complex, which are open to attack<sup>3</sup>.

The prototype of a complicated asthmatic is the past middle age overweight male who has chronic bronchitis and emphysema; a variable amount of pulmonary fibrosis which is difficult to evaluate; evidence of right heart strain, if not failure; habitual cigarette smoking for many years; and a history of coughing, strangling and wheezing. It may seem reasonable to attempt to reduce this picture to a single diagnosis, or to treat whatever aspect of the disease complex appears most urgent. However, the alternative approach, of treating each disease process to the extent that it can be treated on its own merits, is more likely to meet with success.

TOO GREAT RELIANCE ON SKIN TESTS may be misleading<sup>4</sup>. The value and shortcomings of skin tests are a considerable source of misunderstanding. Reliability of the tests varies with the patient, the technique of testing, and the test materials used. To a considerable extent the reliability of the tests depends on the insight and understanding of the physician interpreting

### A course of treatment based

on skin test findings alone should not

be continued if the response is not good.

the tests. The tests may be done by a technician; but it is assumed that no technician would be presumptuous enough to interpret them. False positive and false negative tests are common. In either case the test has validity only to the extent that it correlates with the patient's history, or can be confirmed by clinical trial. If a patient gets asthma every time a headache pill is taken, it is almost certainly due to aspirin. If a skin test is done and is negative, it only proves that such chemicals do not lend themselves to skin testing. If a patient has seasonal asthma from the middle of August through September, then the working diagnosis should be ragweed asthma, even in the presence of a negative test. If the patient has asthma in the winter, and skin tests show strongly positive reactions to pollens; the tests may be completely valid, but obviously have no immediate significance. If an asthmatic patient shows a positive reaction to eggs, the test has validity only if it can be shown that the patient is better when eggs are avoided, or worse when eggs are eaten.

In brief, skin tests are a quick method of obtaining information which may be highly significant, but which nevertheless require confirmation. Needless to say, the patient's history and a period of observation will provide most of the information on which a diagnosis is based. In the absence of a significant history, the skin tests appropriately serve as a point of departure on which to start therapy. A course of treatment based on skin test findings alone should not be continued if the response is not good.

### 3. INADEQUATE TREATMENT

Inadequate treatment, as distinguished from incorrect treatment based on an incorrect diagnosis, may be a cause for a poor response. OVERTREATMENT becomes a consideration in various areas. When specific treatment is prescribed, such as vaccine inoculations for pollen asthma, possible undesirable effects may occur. However, these should not be unpredictable or fortuitous. If the dose is being increased by fixed increments, and a particular dose produces a severe local or mild systemic reaction, then a further increase could easily bring on an attack of asthma or other severe constitutional symptoms. In some cases there is a delicate dose level which is comfortably tolerated when the patient is free of symptoms. Such a dose may prove to be aggravating if administered when the patient is having symptoms. Patients may tolerate relatively large doses out of the pollen season; but react to much smaller doses during the season when they are in a state of acute sensitivity. A previously well tolerated dose may prove to be too strong if given in conjunction with a group of skin tests.



**In regard to house dust, dust avoidance procedures in the bedroom is a good place to start; but not to end.**

The tests may have exhausted the patient's tolerance for exposure to allergenic substances. Almost always it is possible to identify the exquisitely sensitive patient, or the situations where a patient's tolerance may be markedly reduced. Nevertheless an overdose will occasionally be given to a patient, and this may be unavoidable. Repetition of the same dose in such a patient would appear to be unnecessary; but seems to occur with resulting iatrogenic asthma.

Symptomatic treatment is not devoid of opportunity for over-treatment. If a patient does not respond favorable to a single adequate dose of epinephrine, it is usually futile to persist with this drug. Excessive use of epinephrine in such circumstances can have serious constitutional effects resulting in more severe asthma. Intravenous aminophylline, if given too rapidly, can produce peripheral collapse and a state of shock. When given to small children or infants in too large or too frequent doses, it can cause death.

Steroids produce a variety of well documented side effects, not necessarily due to overdosage. When steroids are given unnecessarily, the side effects may be considered to be due to overtreatment of the disease. There is another, frequently unrecognized, aspect to steroid therapy. At times patients are not demanding enough, they may be too easily satisfied, and are content to be comfortable, so long as their way of life is not appreciably altered. With steroids such patients are given an opportunity to abuse themselves and aggravate their disease. If a patient knows that cigarettes cause him to cough and wheeze, steroids may permit him to smoke without being bothered by these symptoms. Nevertheless the irritation to the bronchial mucosa continues. The patient may be protected so effectively that it is impossible to recognize situations or substances which would ordinarily precipitate attacks of asthma. Steroids are often best given in sub-optimal doses, so that the allergic survey of the patient may continue. Other indicated treatment should be carried out, even though not satisfactory in itself. Totally suppressive doses of steroids is in a sense over-treatment.

UNDERTREATMENT of the asthmatic is too often the cause for a poor response. Possibly the patient or the doctor may take a defeatist attitude toward asthma. Possibly they are content to wait for the day when the patient outgrows his asthma. To understand the implications of undertreatment, it is necessary to have a philosophy of treatment. The fundamental factor, namely the individual's constitutional diathesis, is completely beyond the realm of treatment. Treatment must be conceived in terms of reducing the patient's allergic load, or rais-

ing the patient's tolerance to a level where he can handle the asthmagenic factors to which he is exposed.

A major premise must be interjected at this point:

To the extent that any aspect of the patient's disease is responsive to treatment, his tolerance for unavoidable irritants, including intercurrent respiratory infections, is likely to be increased. If an asthmatic is unresponsive to treatment, the solution is not necessarily to alter the treatment; it may be that more intensive treatment is required. In brief, the allergic load should be reduced wherever possible, even if only by fractions at a time.

In regard to house dust, dust avoidance procedures in the bedroom is a good place to start; but not to end. The unresponsive patient may find that if the same procedures are carried out in the living room, he can then tolerate whatever residual exposure to dust remains. House dust vaccine will often be helpful. If all this proves to be inadequate the asthmatic must be shown ways of further avoiding dust outside the home, at his work and in his social activities. Anything less than this is undertreatment.

In regard to the vaccine treatment for pollen asthma, there should be a favorable response in a very high percentage of cases. Assuming the diagnosis and vaccine preparation to be correct, improper dosage may produce a poor result. Dosages vary widely. The interval between doses is often a matter of convenience. Routine treatment schedules may not be adequate for a patient who is not a routine case. Larger doses than usual may prove increasingly effective; but larger doses may not be tolerated. In this case smaller doses at shorter intervals may be the only means of increasing the quantity of vaccine. The dosage schedule must be tailored to fit the patient.

In an asthmatic who shows evidence of developing irreversible tissue changes, such as emphysema, the concept of what constitutes adequate treatment is not clear<sup>5</sup>. Treating such a patient to the point of producing comfort falls far short of the mark. An appreciable degree of bronchial obstruction may be present in the absence of clinical asthma. The degree to which obstruction is present can only be determined by pulmonary function studies. The extent to which the obstruction is reversible is best determined by administering steroids for a trial period. Whenever it is felt that maximum improvement has been achieved with conservative treatment, then steroid therapy should make it evident whether further improvement is possible. If it can be shown by objective tests that maximum relief can be obtained only with steroids, then the question arises as to whether such treatment is justified in a comfortable

patient, to control the progress of a disease which may be ultimately crippling. Possibly in such patients anything less than maximum treatment could be considered as undertreatment.

**TREATMENT OF ASSOCIATED DISEASE** is contingent on the recognition of such disease<sup>6</sup>. By promoting the general health of the patient, his tolerance to allergens and his resistance to infection may be favorably influenced. Some complications such as viral respiratory infections will run their own course, and a multitude of procedures may be necessary to nurse an asthmatic through a prolonged illness. An asthmatic in left heart failure cannot be expected to improve on an allergy regime alone unless his cardiac disability can be corrected. Relief of the asthma, with the consequent lessened work of breathing and improved oxygenation may be a basic factor in bettering his cardiac status<sup>7</sup>. Treatment for chronic bronchitis is often unsatisfactory. To the extent that the bronchitis is resistant to treatment, the asthma will resist treatment. So long as any associated disease is unrecognized, untreated, or resists treatment, the asthma is likely to be unresponsive to therapy.

**DOING THE RIGHT THING AT THE WRONG TIME.** The identification of specific allergenic factors is necessary in order to carry out successful preventative treatment. If the patient had pollen asthma during the summer, and is seen at another season with asthma, vaccine therapy for pollens may be indicated; however it cannot be expected to effect the present attack. A well planned avoidance regime, such as fixing up a dust-free bedroom for a dust sensitive patient may be a desirable procedure at any time; but it may or may not be helpful if done at a time when the patient is having pollen asthma. A patient may have eczema or hives from eggs, and their elimination may be an important aspect of the overall allergic management; but may be unrelated to the patient's asthma. If a patient has fairly frequent asthma attacks, they are not likely to be due to foods or inhalants which the patient rarely encounters. If the patient is allergic to such things, they should be eliminated if possible; but this will not alter the course of a present attack. A patient may be in status asthmaticus as the cumulative effect of repeated insults. Possibly some metabolic depletion occurs. The cause may be eliminated too late to prevent the attack from perpetuating itself.

#### 4. PROGNOSTICATION

What appears to be unresponsiveness may reduce itself only to poor prognosticating. If a patient is seen in the middle of August with asthma due to ragweed, it is safe to assume that the asthma will persist for six to eight weeks. It may actually become worse with the continued exposure to the pollen. If such a patient responds well to symptomatic treatment, but relapses

whenever treatment is stopped, then it must be appreciated that such a patient can be expected to relapse during the pollen season. The same tendency to relapse is inevitable whenever there is continued exposure to whatever precipitated the attack originally. On the other hand, if an attack of asthma occurs in August and quickly subsides without recurrence, ragweed pollen is unlikely to be the cause. With any conjectured cause of asthma, if exposure continues without recurrence of asthma, the assumed cause was likely erroneous. Allergic asthma should continue indefinitely, so long as the exposure to the precipitating factor continues. When the etiologic factors are identified and eliminated, it is then necessary to estimate the duration of such an attack. If the prognosis is not fulfilled, then it may be well to re-evaluate the case.

#### 5. THE UNCOOPERATIVE PATIENT

This patient must assume a fair share of the blame for a poor response to treatment<sup>8</sup>. Asthma treatment, as with many other chronic diseases, is primarily an educational process. The same type of recalcitrants and recidivists, who would not accept an ulcer or diabetic regime, will balk at an allergy regime. If it is impossible to establish a good rapport with a patient, he is best referred to another practitioner who may be able to exert more influence.

This category includes the patient who is happy to take large doses of almost anything, but refuses to be inconvenienced by a diet; and the one who puts in his appearance annually with severe ragweed asthma, but refuses prophylactic treatment. Occasional patients challenge you to uncover their subterfuges. They fix up a meticulous dust-free bedroom, and then sleep in another room. They get rid of a dog, with obvious relief, but then get another dog. They may get rid of an old, dusty, feather pillow; and replace it with a nice, new, clean, feather pillow. When you ask if they got rid of the pillow or dog, they answer yes. With the unresponsive patient, a second or even a third history may be very revealing.

Some patients are too affluent. They may have wall-to-wall wool carpeting with felted animal hair rug pads, expensive down furniture, and blue-ribbon pets. Such a patient will have difficulty facing up to reality if his allergy is primarily due to epidermal substances. Another patient may feel himself too poor to make the necessary changes in his home.

An apparently uncooperative patient may be only an uninformed one. The whole idea of trial diets with exposure and avoidance testing may strike him as being a guessing game. The concept of treatment by avoidance and elimination may be difficult to grasp. The patient may be unwilling to accept a diagnosis if the skin test is negative. The patient may simply be expecting too much. A grass sensitive farmer may be treated successfully enough to contend with the pollen in the air; but not be able to tolerate the massive ex-



**Unquestionably the patient deserves, in language he can understand, an unhurried explanation of his problem . . .**

posure encountered in haying. A ragweed sensitive child may do very well so long as he does not play in an empty lot overrun with weeds.

Unquestionably the patient deserves, in language he can understand, an unhurried explanation of his problem, the purpose for the various modalities of treatment, together with a reasonable explanation of what he has a right to expect with treatment and without treatment.

#### SUMMARY

Bronchial asthma is usually a reversible disease; and its treatment can be divided into two phases: one, treatment of an existing asthma attack; and two, treatment directed at the prevention of recurrences. In either category the patient may be unresponsive to treatment. That is, the acute attack persists because symptomatic treatment is not effective; or the acute attack is readily controlled with medications, but recurrences are not prevented. It may be well to approach the problem of the unresponsive asthmatic with the following questions in mind:

1. Is this in fact bronchial asthma?
2. Are there any complicating or concurrent diseases?
3. Has the patient actually had an adequate course of treatment?

A check list is given which may be of some help in evaluating such patients. An unresponsive patient may simultaneously fall into more than one of these categories. The unresponsive asthmatic should not be considered as a treatment failure until all avenues of investigation have been carried out, and until all aspects of his disease have been given the benefit of intensive treatment.

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Maine will be a leader in this new horizon of medical care  
if physicians cooperate with the Division of Rehabilitation . . .

## Early Recognition Of Need Of Rehabilitation

HAROLD N. WILLARD, M.D.\*

Whitehouse has stated that "the typical client who goes to the Division of Rehabilitation has been impaired for seven long years before referral"<sup>1</sup>. In the State of Maine, one thousand clients were referred to the Division of Rehabilitation during the year July, 1958 to July, 1959. Only fifty-three of these referrals were made by physicians. During the same year three hundred and thirty-three cases were successfully placed in employment by the Division of Rehabilitation. Only nineteen of the successful cases had been referred by physicians<sup>2</sup>.

These striking figures show that rehabilitation is thought of much too late in the course of a patient's illness, and it is not the physician who takes the lead.

### ARE THERE INDICATIONS THAT EARLY REHABILITATION IS EFFECTIVE?

An example of early rehabilitation will illustrate some of the benefits.

An eighteen-year-old boy was admitted to the Thayer Hospital, September 17, 1959, following a fall from a tree. He had a fracture-dislocation of the ninth thoracic vertebra with loss of motion and sensation below this level.

Acute care was carried out by the surgeon who saw him in the emergency room, and a neurosurgeon performed an exploratory laminectomy on the first hospital day.

On the ninth day of hospitalization, rehabilitation was discussed with the patient and a program of passive exercise was started. Also on the same day, the counselor from the Division of Rehabilitation started discussing vocational opportunities with the patient. It is difficult to describe in scientific terms the effect this procedure had on the patient's motivation, but the boost to his spirits was evident.

Five weeks after his accident the patient was moved from the acute ward to a ward where patients with problems similar to his were actively participating in the rehabilitation program. To move from an environment in which a patient gets attention commensurate with his degree of sickness, to an environment in which attention is given to convalescence and return to function, cannot be underestimated in its importance.

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On October 31st, X-rays showed adequate healing of the spine so that the patient was allowed up in a wheelchair and attended gymnasium sessions daily.

The genito-urinary problems were under the care of a Urologist. On November 13th the Foley catheter was removed. This was possible because successful skin care had prevented decubitus ulcers, and it was felt that the dangers of urinary leakage were much less than the dangers of leaving the catheter in and developing bladder stones. On this first trial of removal of catheter, the patient had enough residual urine so that he developed a cystitis, and the catheter had to be replaced November 22nd. However, the infection was easily controlled with erythromycin and Gantrisin® and on December 3rd the catheter was removed for good. The patient learned the Credé maneuver and by using the urinal every two hours was able to stay dry much of the time. On December 12th his residual urine was found to be 50 cubic centimeters.

Bowels were regulated by a laxative every second night followed by an enema in the morning.

Physiotherapy focused on building up the shoulder and arm muscles and the patient learned to transfer from bed to wheelchair with the minimal assistance of someone to guide his legs.

The Division of Vocational Rehabilitation authorized the purchase of crutches, wheelchair, and long-leg braces so that the patient could make fullest use of his returning functional abilities. The counselor saw the patient weekly to explore what future vocation best fitted the patient's aptitudes.

The patient was highly motivated and his family were intelligent people who were eager to have him return home. On December 17th, exactly three months following his accident, he was discharged home to be followed on an out-patient basis.



**Until fifteen years ago the mortality rate among paraplegia patients was ninety per cent the first year.**

#### COMMENTS

Until fifteen years ago the mortality rate among paraplegia patients was ninety per cent in the first year. Today, with antibiotics and aggressive rehabilitation about sixty per cent can be expected to survive, and to lead productive lives. However, early rehabilitation continues to be a most important factor. As Dr. Howard Rusk has stated, "It takes us twice as long to clear up the complications of poor early management as it does to train the patient"<sup>3</sup>.

The above patient was referred by his physician to rehabilitation immediately after his injury and rehabilitation was carried out in his home town. As a result, the period of hospitalization was only three months as compared to an average of twelve months if he had been sent away to a distant rehabilitation center. The patient's motivation to help himself was kept at a high level and his family were included in rehabilitation planning. The actual rehabilitation was not complicated enough to be unavailable in any general hospital. The

early application was probably the most important factor.

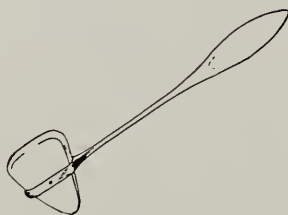
#### DISCUSSION

With the increasing incidence of chronic illness and longevity, there is an urgent demand for rehabilitation. This demand has been met constructively by governmental agencies, such as the Division of Vocational Rehabilitation, and voluntary health agencies in Maine. A newly formed Maine chapter of the National Rehabilitation Association is accepting responsibility for helping these many agencies coordinate their activities.

The response of physicians to this urgent need has been less sensitive. As a result, the agencies that have been formed are not being used effectively. If physicians meet them half way, Maine will be a leader in this new horizon of medical care; and of even more importance, the individual patient will be helped to consolidate the gains of the acute care he has received.

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Alcohol, of all poisons, is probably  
the cause of the largest number of dead,  
disabled, and seriously injured.

## The Use Of Alcohol Determinations In Medico-Legal Investigations\*

IRVING I. GOODOF, M.D.\*\*

Alcohol, of all poisons, is probably the cause of the largest number of dead, disabled, and seriously injured. Approximately one third of all violent deaths involve persons who have been drinking. It is, therefore, essential that all persons involved in medico-legal investigation and law enforcement be consciously aware of the part played by ethyl alcohol in any situation of trauma.

The sole action of ethyl alcohol on the central nervous system is that of a depressant. The extent of depression is proportional to the amount of alcohol in the nerve cell. It is potentiated by hypoxia. The effects are first recognized in those portions of the central nervous system which are most recently developed in the course of evolution. The higher nerve centers, therefore, will be depressed earlier by a lower concentration of alcohol than will the basic fundamental life-sustaining portions of the brain. The effects of ethyl alcohol appear gradually starting with loss of inhibitory functions ("Varnish of Civilization"). Removal of these restraints gives the impression of stimulation. Reactions to stimuli are slowed with the effect being roughly in geometric proportion to the concentration of alcohol. The special senses then follow with blurred and double vision and impairment of hearing. There follows loss of co-ordination with uncertain step, slurred speech, and clumsiness, all of which are progressive with increasing levels of alcohol.

Alcohol is generally ingested as a beverage varying in concentration between beer at 4 to 5 per cent by volume through wines to gin, whiskey, and brandy at 40 to 50 per cent by volume. The alcohol is absorbed slowly through the stomach wall and more rapidly following passage into the duodenum. The rate of absorption depends on the concentration of alcohol in the stomach contents, the nature of the food in the stomach, the length of time it remains in the stomach, and finally the permeability of the stomach and intestinal wall.

Complete absorption of one or two ounces of alcohol occurs in forty to seventy minutes if taken on a reasonably empty stomach. If there is much food in the stomach to slow absorption, it may not be complete for two to three hours.

Ninety-five per cent of the alcohol ingested is oxidized in the body to carbon dioxide and water. The other five per cent is excreted unchanged in the breath, urine, and perspiration. In the liver, alcohol dehydrogenase helps break alcohol down to acetaldehyde which is then further broken down to acetic acid. This is metabolized to carbon dioxide and water in the rest of the body. Since this process is accompanied by the liberation of heat, alcohol may be used as a source of thermal energy.

While in the body, the alcohol is distributed in the tissues in proportion to their water content. The structures containing relatively little water such as bone and hair will have a low alcohol content whereas urine, saliva, and cisternal spinal fluid will have a higher alcohol level. The concentration of alcohol in the breath is proportional to that in the blood and may, therefore, be used as an indication of the blood level. The concentration of alcohol in the urine lags behind that in the blood during the absorptive phase and rises above the blood level by approximately 25 per cent after the completion of absorption. The rate of elimination of alcohol varies somewhat. The average 150 pound man can eliminate one third of an ounce of alcohol per hour, and the concentration of alcohol in the blood will decrease approximately 0.015 per cent per hour.

The question of tolerance to alcohol is not adequately understood. There are presumably two type of tolerance — that of consumption, and that of constitution. Consumption tolerance depends probably on rate of absorption of alcohol and the rate of elimination. It is likely that elimination is the more variable factor. Constitutional tolerance is manifested by the fact that abstainers may frequently begin to have trouble at 0.02-0.04 per cent in the blood whereas heavy drinkers may have no recognizable difficulty until reaching 0.08-0.09.

\*From the department of Pathology, Thayer Hospital. Presented before the Maine Medico-legal Society fall meeting, December 9, 1959.

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**It is entirely possible for persons to be either unjustly accused of alcohol intoxication, or in some instances, unjustly exonerated, by virtue of an inaccurate alcohol determination.**

Any person at a given concentration of alcohol will theoretically be at some definite stage of intoxication. Subjectively, however, the stage of intoxication depends on whether the blood level is on its way up or down. A person who has been sober and starts to drink will feel quite intoxicated by the time the blood level reaches 0.1-0.12. However, several hours later, on reaching this same range of level, after having passed a relatively high peak he will feel much more sober by comparison with his previous state. This is a finding of considerable significance since it may well explain the tendency of drinkers to drive with a fairly high alcohol level since they themselves feel that their level of intoxication is minimal. The frequent drinker will learn to mask the effects of alcohol intoxication by walking with a broad base, controlling the speed of his movements so that there actually is the appearance or impression of tolerance greater than is actually the case.

The examination of an individual suspected of alcohol intoxication includes a study of his behavior, attitudes, mental alertness, quickness of response to injury, and degree of muscular incoordination. In all instances it is helpful to obtain as much objective evidence as possible of a definite characteristic which can be compared with the same characteristic repeated when the patient has had adequate time to eliminate the alcohol from the system. A sample of handwriting is frequently helpful in this regard. It is extremely important to keep in mind the fact that in some disease states there may be similar disturbances of mental and physical behavior which must be differentiated from any possible effects of a toxic agent.

The actual performance of analytic studies for alcohol concentration may be carried out by many methods. The most commonly used method is the oxidation of alcohol by chromic acid or potassium dichromate with either colorimetric or titrimetric measurement of the residual oxidizing agent. The accuracy of the results depends, naturally, on the accuracy of each step in the quantitative analytical procedure as well as the accuracy of the measuring equipment used throughout. The

original sample, which generally consists of blood, must be properly procured without the possibility of contamination by volatile reducing substances. The original amount of this blood which is used in the determination must be accurately measured. The alcohol must be quantitatively extracted from the sample, and an accurate means of carrying out the analysis must then be available. The sources of error, in addition to the human error of the analyst, involve the accuracy of the standards, the reagents used, the various types of glassware, and require the running of blanks along with the analysis of the sample.

Unfortunately, the comparative results obtained by different laboratories on an individual sample of blood show variation which is not explainable except on the basis of errors in techniques. There are laboratories running alcohol determinations which are staffed by inadequately trained personnel, many of whom have no true chemical background. It is entirely possible for persons to be either unjustly accused of alcohol intoxication, or in some instances unjustly exonerated, by virtue of an inaccurate alcohol determination. It is suggested that, in view of the importance of this procedure from the medico-legal standpoint, a program of approval of laboratories for performance of this procedure by the regular submission of unknown specimens be instituted through some central official agency.

Several procedures have been devised for the determination of alcohol concentration of the breath. There is a direct proportional relationship between the alcohol concentration of the breath and that of the blood. The methods available for this determination are generally satisfactory and can be carried out by an intelligent individual without a long period of training. Certain requirements, however, must be fulfilled in order for the determination to be of value. One of these is that at least fifteen minutes must have elapsed since the last drink to do away with any alcohol vapors which may be left in the mouth. A second requirement is that the method must measure alveolar air in order to have a direct relationship with the level in the blood. These methods may also present errors similar to those encountered in blood analyses, unless proper controls are instituted.

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# Rehabilitation In Oto-Laryngology\*

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... the conscientious physician rarely  
can do full justice to a patient with any serious  
difficulty without a careful study of the whole man ...

The National Foundation has defined rehabilitation as "Assisting the individual with a handicap to realize his potentials and goals; physically, mentally, socially, and economically." In clinical practice this can be construed as Comprehensive Care, aimed at achieving the optimum in convalescence. This implies a broad conception of the problems, utilizing all indicated skills, both medical and paramedical.

Some of the earliest examples of rehabilitation were in the field of Otolaryngology. Effects to overcome the handicap of impaired or lost hearing, dates back to the work of a Benedictine monk, Ponce de Leon, in 1578 from which has developed the Speech Reading and Auditory Rehabilitation of today. Therapy for those handicapped by speech defects has been practiced successfully for years although too often with little interest or guidance from physicians. Esophageal speech for the laryngectomee has been a later development. The utilization of postoperative teaching, so successfully demonstrated in the clinics of Orton and of Schall, and others, has been outstanding in the rehabilitation of those deprived of their larynxes.

It is not the purpose of this paper to discuss the rehabilitation of the deaf by special education or by surgical procedures, the correction of speech defects, or the development of esophageal speech for patients having undergone laryngectomy. These are well recognized as parts and as responsibilities of Otolaryngology. Our aim is twofold:

1. To reemphasize that conditions of the ear, nose, and throat can seriously disturb the patient's function emotionally, socially, or even at work; and that the physician should recognize and endeavor to remedy this dysfunction as well as the local conditions.

2. To reemphasize that conditions of the ear, nose, and throat may be the early, perhaps the only signs, of a systemic or constitutional disease.

McMahon, in his Presidential Address to the American Laryngological Association in 1956 said, "the inclination has been more and more to consider the patient as a whole, one in whom otolaryngologic symptoms often may be considered a local manifestation of constitutional dyscrasias." Indeed the conscientious physician rarely can do full justice to a patient with any serious difficulty without a careful study of the whole man; nor is he doing his whole duty to his patient when he overcomes the immediate disease disability, but neglects using all means of restoring him to a useful and self-sufficient place in our economy. Accurate and complete diagnosis and the utilization of every indicated skill, both medical and paramedical, should provide treatment, that will prevent future disability as well as overcome that already present. Many times the services of the medical social worker, the clinical psychologist, the physical and occupational therapist, the nutritionist, and the vocational counselor may be indicated. This implies the use of an expanded medical team to provide comprehensive patient care.

Too often the clinician fails to see beyond his own particular field. Mosher once said, "The strength of specialism is specialism, and, paradoxically, the weakness of specialism is specialism."

The field of oto-laryngology may be a veritable show-window of many acute and chronic diseases. The oral cavity may provide clues of many significant general conditions. The old-time physician, while lacking the advantages of modern laboratory tests, gained much valuable information by inspection of the tongue. A poor dental condition may be a real factor in a nutritional problem. The lips may suggest avitaminosis. Similarly the nose may reveal much more than a septal deviation or signs of sinusitis, while the naso-pharynx may present clues of great diagnostic value. Routine laryngeal examination may reveal evidence of an unsuspected thoracic lesion. Sub-clinical hypometabolism may be manifested first by signs and symptoms such as

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**Patients desire above all else to be useful, to be able to overcome crippling disabilities. Anything to facilitate a return to gainful employment is good medicine.**

lymphoid hyperplasia, chronic nasal obstruction, polypoid changes in the larynx, lump in the throat, dry external auditory meati, etc. By intelligent observation one may be able to suggest further diagnostic studies which may solve many a problem, thereby providing restoration to full health. This might be termed practicing indirict rehabilitation.

We shall present certain examples illustrating the broad concept of rehabilitation as it applies to the field of oto-laryngology. These examples will stress our responsibility not only to the disease but also to the reaction of the patient and the environment in which he lives.

Patients desire above all else to be useful, to be able to overcome crippling disabilities. Anything to facilitate a return to gainful employment is good medicine.

#### EXAMPLES

A widow, age 45, the sole support of an aged mother, presented a severe emotional problem. Although without evidence of recurrence for six years following surgery and irradiation for extensive carcinoma of the larynx, she had been unable to secure employment and was markedly depressed. Finally, after considerable effort a job was obtained for her in a shoe-shop. As is so often the case she has proven to be a most valuable and loyal employee with only two days absenteeism due to illness in the past three years. Despite a far from pleasing voice she now has been promoted to a responsible position in the firm's office and is quite contented and happy.

Recently we have seen a young man of 20 years, an epileptic, who developed a severe mumps labyrinthitis at the age of 15. He has a very severe nerve deafness. While he obtains some slight benefit from a hearing aid on one ear, obviously he should have had auditory rehabilitation five years ago. Instead he had a tonsillectomy. His education has been sadly neglected. He was without employment or funds, and was emotionally disturbed. So, in addition to training in speech-reading and medical treatment of his epilepsy, vocational rehabilitation was provided to train him and place him in a job he can handle. He is now gainfully employed as a meat cutter.

Many emotional problems may be greatly minimized if, prior to operations, patients are given a clear understanding of what is necessary, and of how the ensuing disabilities may be overcome, or at least minimized. Just as the patient about to undergo laryngectomy

is helped by a visit from a person who has a good esophageal voice, so may one with malignancy of the soft palate requiring radical removal be reassured as to future disability, and that a very fair voice can be obtained by a prosthesis, aided by a Speech Therapist.

Within the past few years we have had two laryngectomy cases which presented language problems; a Syrian and a Frenchman, neither of whom spoke English. Only through utilizing interpreters could we partially overcome the severe emotional problems inherent in their operations. One, in addition, presented a severe nutritional problem which delayed healing. Certain that the tube feedings were poisonous to him, he repeatedly would pull out the feeding tube. Even after this was discontinued, he would refuse nourishment. Language difficulties added to physical disabilities require more than medical skills.

As children grow older, particularly in the adolescent period, the emotional status becomes increasingly important in Auditory Rehabilitation. Often they are concerned about their Future. Here counselling becomes very important. In our situation, where these children have been coming to the Clinic for auditory rehabilitation, their interest, rather naturally, turns to the Health field. For example, a girl of 14 who has been in our class for eleven years and who is an excellent speech-reader, is desirous of becoming a nurse which, of course, would not be practical. She was quite satisfied, however, when she was assured she could train as a tissue technician, or a physio-therapist, after she graduated from High School.

The problem of presbycusis can be managed best by frank explanation of the condition and of the limitations of hearing aids, together with advice as to proper adjustment to the aging process, rather than futile attempts at local treatment. Referral to an internist interested in Geriatrics often is helpful. Incidentally we have found that establishing a Social Club for oldsters with interesting lectures, games, etc. has been of considerable benefit to many of these people.

It has been said that if we look at a patient long enough we frequently discover unmet medical needs. Allergic states of the nose should be readily recognized but often may be overlooked in the patient with eczema of the external ear, otitis media with effusion or a flareup of a previously dry chronic suppurative otitis media or radical mastoidectomy cavity. Such a case was seen in a young woman who had bilateral chronic middle ear suppuration which had been dry for years but recently had flared up in one side and in which radical mastoidectomy had been advised. Not only was this her best hearing ear but she was, herself, rundown from numerous successive pregnancies. Control of her allergic state, plus good general medical care, avoided surgery and left her with serviceable hearing.

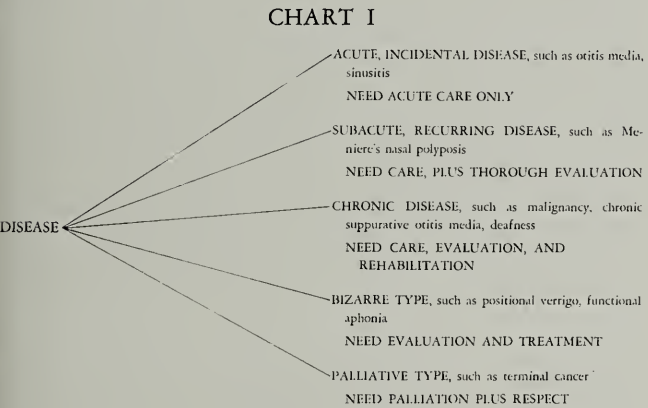
Every case of vertigo may not be Meniere's Disease and we have found medical consultation more effective than empiric use of vasodilatation and blocking agents.

This diagnosis frequently is employed on grounds which are not valid. Careful study may indicate, perhaps, a central condition, or more fortunately, postural hypotension, hypometabolism, or even the hyperventilation syndrome as the cause.

Often we see patients with vague bizarre symptoms of scratchy, irritable throats, dry nose, or of hoarseness in whom a carefully taken history, plus an overall look at their appearance, suggests subclinical myxedema, and the advisability of radio-active iodine or protein bound serum iodine tests, rather than futile local applications. The complaint that brings the patient to the doctor may be less significant than one or more unsuspected conditions. While much may be discovered by a carefully taken history and a thorough examination, we all know from experience that subsequent observations may reveal much which previously was missed.

Are we doing our patient with epistaxis, especially recurring epistaxis, justice, simply by cauterizing the bleeding point? Should not this merit consultation with the Internist? Recently we uncovered a case of De-Gugliermo's disease in such a patient. Furunculosis of the nasal vestibule or of the external auditory meatus, especially if recurrent, should suggest the possibility of an underlying diabetes.

A method by which the physician can alert himself to the patient's need for rehabilitation has evolved from experience. The patient's complaints may be categorized as follows:



Each contact a patient makes with a physician is a golden opportunity that should not be lightly handled

Each contact a patient makes with a physician is a golden opportunity that should not be lightly handled by "target medicine" . . .

by "target medicine," which often may have tragic consequences. The chief complaint is the method the patient uses to justify his visit but does not explain his visit. Certainly the patient who appears with an acute otitis media or a peritonsillar abscess demands acute specific care. But the many other patients who come with less acute and dramatic symptoms are asking for help in a more non-specific way. With these patients, observations must transcend the organ and look for systemic disease; or for conditions that decrease the body reserves, such as nutritional or fatigue factors; or must see the symptom as evidence that the patient is unable to cope with his environment. This broadened role of the doctor is often called comprehensive care and comprehensive care calls for more than just diagnosis. To do proper comprehensive care the physician must not only be a specialist but also have a knowledge of the general diseases that can effect the organs of his specialty and furthermore be interested in health education, guidance, and rehabilitation. He must recognize the indications for consultations and make effective use of them.

Comprehensive Medicine, of course, conflicts with the theory of Single Causation. However, it has been proven that many causes must be considered, both in the prevention of recurrence and in rehabilitation. If we accept the theory of Multiple Causation, the physician's role necessarily must be broader and, to play this role effectively, he must work closely with his colleagues and with paramedical personnel. This calls for knowledge, experience, judgement, and thoroughness, together with a willingness to devote all necessary time to patients seeking help. It cannot be done on a production-line basis. And often it cannot be done alone. But, with the resources of the modern hospital and the special medical skills so readily available today, comprehensive care and rehabilitation, should present a challenge, not an impossibility, to be disregarded. Restoration to the optimum is a goal worth striving for.



# Carotid Artery Disease And Papilledema

LOV K. SARIN, M.D.\*

## INTRODUCTION

Insufficiency and/or thrombosis of the carotid arterial system is being recognized more and more. Due to its frequent association with ocular involvement it is of great interest to ophthalmologists. In the last year or so many articles have appeared in the ophthalmic literature dealing with the varied aspects of this syndrome.

Hollenhorst<sup>1</sup> in his series of 124 cases found that in 67% with intermittent insufficiency and in 58% with thrombosis of the carotid system the patient presented ocular signs and symptoms. He listed the ocular symptomatology as follows: amurosis fugax, unilateral retinopathy, unequal retinal hypertensive vascular changes, homonymous hemianopisa, homonymous hemianopic hallucination, occlusion of the central retinal artery and unequal pupils. He did not encounter papilledema in any of his patients. Johnson and Walker<sup>2</sup> in their series of 107 cases mentioned that papilledema occurred in two cases only. Walsh<sup>3</sup> did not report papilledema in any case of his series. Milleti<sup>4</sup> in his series saw two cases of mild papilledema. Brigeat<sup>5</sup> has mentioned papilledema occurring in this syndrome, as did also Charrat and Gottwald<sup>6</sup>. It is evident that papilledema is not of common occurrence in this syndrome, but that it has been thought to exist as a rare manifestation of it.

The following case of carotid artery thrombosis and blindness is presented because papilledema was the principle ocular sign and because this particular case gives an opportunity to discuss pathogenesis of this fascinating sign.

## CASE REPORT

A 77 year-old white male developed sudden blindness of the left eye, associated with left-sided headache extending from the frontal area to the occiput four days prior to hospitalization. There was no history of previous headache or weakness of any extremity, although within the past year he had had three episodes of change in vision of varying degrees. The first two attacks lasted one-half hour and were associated with dizziness, confusion, and tubular vision in the left eye, which cleared without any apparent residual effect. The third attack was associated with blindness of the left eye for one-half to three-quarters of an hour. This blindness also cleared. He had had asthma of many years' duration, but no other significant past medical history.

The eye examination revealed that visual acuity in the right eye was limited to finger counting at one meter

and that the left eye was totally blind (no light perception). There was no limitation of the extraocular muscle; the left pupil was dilated 6mm. and was fixed to direct light stimulus but reacted consensually; the right pupil was 4mm., regular, round, and reacted briskly to direct light stimulation but did not react consensually. Corneal sensitivity was intact in both eyes; intraocular pressure was 10 Schiotz in both eyes with 5.5gm. Schiotz; fundus examination of the left eye showed marked papilledema (3-4 diopters); no hemorrhages nor exudates were seen anywhere in the fundus; no retinal edema was seen; the macula looked healthy; there was increased arteriolar reflex with moderate a.v. knicking; digital pressure on the globe failed to elicit any pulsation of the veins; the right fundus except for arteriosclerotic changes similar to the fellow eye did not show any other findings of significance; the disc margins were sharp and there was no papilledema; the macula was normal; digital pressure on the globe revealed venous pulsation. Due to poor vision in the right eye, the confrontation method was used for visual field examination and this did not show any hemianopic defect.

The pertinent features of a general examination done by an internist were: blood pressure 140/80; right carotid pulse palpable, the left was not; there was no temporal artery pulsation on the left side; the peripheral motor and sensory systems were intact and deep tendon and plantar reflexes were normal. The cranial nerves (except optic) were normal. The spinal fluid protein was 35mgm.% pressure of 180 clear issued colorless fluid. The blood morphology and blood chemistries were normal. (sugar 78; N. P. N. 21; cholestrol 200). An X-ray of the chest showed a mild increase in bronchial markings, chronic bronchitis and an elongated aortic arch. An X-ray of the skull gave no evidence of increased intracranial pressure, or erosions of the skull bones, nor abnormal intracranial calcification.

The diagnosis of the left common carotid occlusion was made and the patient was started on anticoagulant therapy. Twenty-four hours later the patient complained of losing vision in the right eye. The right pupil was 5mm. and reacted slowly to light; the disc showed blurring of the margin at the temporal quadrant. The superior, inferior and nasal borders were sharp. There was definite elevation in the center of the disc (redundant). The left fundus was unchanged. 18 days later the disc margins in the left eye, were sharp temporally but slightly blurred superiorly, inferiorly and nasally. There was no measureable papilledema. There was narrowing of the arteries without any dilatation of

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the veins. The right disc was slightly pale. Digital pressure revealed slight and weak venous pulsation in both eyes. The visual acuity of the right eye was at the level of light perception with accurate projection and the left eye was still totally blind. The patient was ambulatory at all times.

### DISCUSSION

Hollenhorst<sup>1</sup> has very vividly discussed the visual field defects occurring in this syndrome and mentions that total or almost total blindness in one eye is due to occlusion of the central retinal artery or ophthalmic artery. On the other hand, Igersheimer<sup>7</sup> discussing the serious visual trouble caused by unusual circulatory disturbances in the region of the optic nerve cites Uhthoff's description of three elderly patients who experienced sudden, total or almost total loss of vision in one or both eyes with a blurry and somewhat edematous disc and great visual field defects. The retinal arteries were narrow and there was some hemorrhage around the disc. In all his patients, the blood pressure was high and arteriosclerosis marked. Igersheimer<sup>7</sup> mentioned one of his own cases where he concluded (as Uhthoff had in his) that the cause of the optic nerve lesion probably laid in the pathology of small vessels since the central retinal vessels were intact. Histological studies remain to be done to prove this clinical observation.

It is my conjecture in the case described above that the optic nerve artery (nutrient artery of the optic nerve) is the site of pathology, papilledema resulting because of anoxaemia. Papilledema does not have to start at the superior or inferior border of the disc as often believed, but can start temporally; (not referring to papilledema of increased intracranial pressure which often starts at the sites above-mentioned).

The cases described by other physicians with papilledema in carotid artery syndrome could very well be due to concomittent occlusion of the optic nerve artery, when not associated with generalized hypertension.

Optic atrophy with disappearance of papilledema is the sequel of papilledema and can be anticipated in seven to ten days following papilledema of anoxaemic type.

The history of episodes of visual loss could also be due to impaired blood supply to the optic nerve as a result of carotid occlusion but such a patient would have some residual visual defect after each episode. Of

course this is hard to evaluate on this basis of history alone.

It is not denied that occlusion of the central arterial or ophthalmic artery does not occur in association with carotid occlusion; when it does occur, it is easily demonstrated.

It is again worthwhile to note that the patient described in the paper did not have hypertension, while many cases described in the literature have had high blood pressure and the retinopathy and papilledema was of the hypertensive type with cotton wool patches described by Hollenhorst<sup>1</sup> as having a different pathogenesis.

### CONCLUSION

A case is presented with carotid artery occlusion showing total blindness and severe papilledema on the left side.

The cause of blindness and papilledema is hypothesized to be the occlusion of the optic nerve artery resulting in anoxaemia of the optic nerve and papilledema.

It is postulated that when papilledema occurs, with carotid artery thrombosis, the pathology is due to associated thrombosis of the optic nerve artery. When this occurs, optic atrophy following anoxaemic type of papilledema can be anticipated in seven to ten days following the papilledema.

Note: The author is aware of the fact that anatomically the optic nerve artery (nutrient artery of the optic nerve or axial vessels of the optic nerve) is not established to be the only source of blood supply to optic nerve; however it is hypothesized to explain that symptomatology occurring in the above case<sup>8</sup>.

The author wishes to gratefully acknowledge the assistance and cooperation of Doctors H. F. Hill, and J. M. Jackler in the management of this case.

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# Abdominal Repair Of Large Hiatus Hernias

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In this article no attempt will be made to cover all that there is to say about hiatus hernias. The subject will be briefly summarized and the indications and contra-indications of the abdominal procedure discussed. There are small hernias and there are large hernias. The small ones are often difficult to demonstrate by X-ray as they are frequently asymptomatic. When symptomatic, the symptoms are mostly due to regurgitation of acid gastric contents into the esophagus. The patients complain of heartburn, involuntary regurgitation of gastric fluid into the pharynx, and occasional difficulty in swallowing. The whole picture may resemble that of peptic ulcer and is frequently treated as such. Ulcer treatment is often effective and may clear up the problem completely.

There are larger hiatus hernias in which 20% to 50% of the stomach literally slides up into the mediastinum. These, too, may be virtually asymptomatic. When these large hernias cause trouble, and most of them do, the trouble usually is due to the physical presence of too much stomach in the mediastinum. The trouble varies in degree. Many of these people complain of frequent belching, occasional difficulty in swallowing, and occasional severe substernal discomfort, relieved by belching or vomiting. They may also have symptoms of acid regurgitation, as in the smaller hernias. All of these symptoms may be tolerable, however, and many people tolerate them throughout long, happy, and productive lives.

However, a significant percentage of people with large hiatus hernias develop symptoms which are intolerable to the individual and to the family physician. This eventually brings the surgeon into the picture. The commonest story is that of an elderly lady who has had stomach trouble for years, and who is somewhat obese in spite of it, has gradually reached the point where she cannot eat without experiencing severe discomfort in the substernal area and back accompanied by shoulder pain and dyspnea. She may become apprehensive, often in near panic, and this results in a hurried call to the doctor. By the time the physician arrives the patient often has vomited, voluntarily or involuntarily, and achieved immediate relief. Occasionally, however, pain, gagging, difficult swallowing, and fright continue until the physician arrives. He usually finds himself at a loss for a diagnosis. Understandably, he may have the patient admitted to the hospital as a coronary, or as an acute gallbladder, or he may temporize with an injection of some narcotic and see what happens. It hap-

**Some surgeons, a minority,  
feel that the presence of a hernia  
is, in itself, sufficient reason for surgery.**

pens again soon, and eventually he has a barium swallow done which reveals a large hiatus hernia.

There is a certain amount of disagreement between some gastro-enterologists and surgeons as to how the small hernia should be treated. A generally acceptable approach is that the smaller hernia is a medical problem until adequate medical treatment has failed. Some surgeons, a minority, feel that the presence of a hernia is, in itself, sufficient reason for surgery.

Because of the impressive size on the X-ray film, many physicians feel that the large hernia should be repaired just because it is there. Many people, however, live to healthy old age with their stomachs in extremely unorthodox positions, which may be unsuspected until a meddlesome doctor starts taking X-rays. Again, as in the small hernia, a reasonable approach is to let the symptoms determine the treatment.

We are concerned in this paper with the relatively large hernia, in which recurrent and unmanageable symptoms force the surgeon into picture. Before discussing the surgical management of this problem, a short historical resume of the surgical approach to hiatus hernia is in order.

Initial surgical attempts at hiatal hernia repair were via the abdominal route. Because of the relative difficulty of approach and a lack of understanding of the physiology of the esophago-gastric junction, results were often disappointing. With the development of modern thoracic surgery the problem naturally fell to the chest surgeon. Big or small, the hernias were more accessible from above the diaphragm than below. Concomitantly, definition of the basic principles of the hiatal hernia repair improved the results. For a decade or so the thoracic surgeons held a franchise on the esophageal hiatus in most centers.

However, it eventually became clear that the basic principles of repair, (elimination of the defect in the hiatus and re-establishment of the proper esophago-gastric angle) frequently could be fulfilled through an abdominal incision. Therefore, more and more of the smaller hernias are now being repaired by this route.

The larger hernias, on the other hand, usually remain quite exclusively in the realm of the thoracic surgeon. In most cases the repair from above is relatively simple

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FIG. 1. Seventy-year-old white male with emphysema and recent cerebral accident.

and safe. If there is fixation of stomach or esophagus in the mediastinum, it can be effectively handled trans-thoracically, but would be difficult or impossible abdominally.

An occasional case is encountered in which both surgeon and internist or family physician agree that surgical correction of a large hernia is virtually mandatory, and in which both are reluctant to consider a thoracic approach. This reluctance may not be completely defensible, but it seems reasonable to feel that a thoracic approach in the very old patient, the emphysematous patient, the cardiac patient, or the patient with any combination of these three, is undesirable if an acceptable alternative exists. In the larger hiatus hernias with symptoms of relatively short duration, and without roentgenological or esophagoscopic evidence of fixation in the mediastinum, the acceptable alternative, an abdominal approach, exists.

Within the past year three cases which met some of the above reasons for reluctance were encountered at the Thayer Hospital, and were repaired by an abdominal approach.

The first patient, a 70-year-old retired physician, was moderately kyphotic. He was also emphysematous. A cerebrovascular accident had rendered him aphasic to the point where only his wife could understand him. The history that could be obtained suggested that a hiatus hernia had been present for several years prior to onset of alarming symptoms. These consisted of

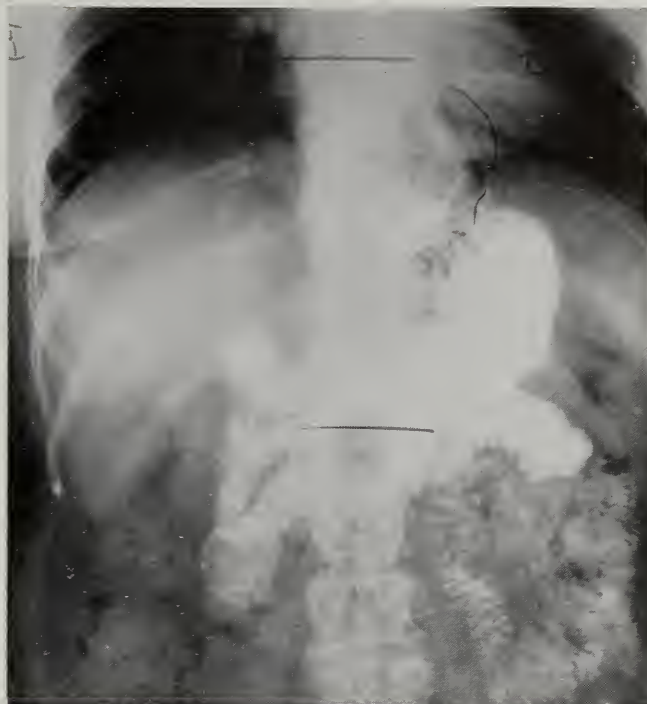


FIG. 2. Fifty-nine-year-old white female with history of hypertension, cerebral hemorrhage and frequent severe substernal pain.

sudden onset, following eating or lying down, of substernal pain radiating to the shoulder and back, accompanied by dyspnea, gagging, and extreme apprehension. These episodes lasted from a few minutes to three to four hours. Medical treatment, consisting of antispasmodics, antacids, and varying degrees of sedation, neither prevented nor significantly relieved the attacks. Barium swallow (Fig. 1) showed about 40%-50% of the stomach above the diaphragm. This was repaired trans-abdominally. The patient was discharged on the 5th post-operative day in the care of his wife, a registered nurse. Post-operatively, he has continued to have annoying episodes of hiccuping, but has been entirely free of his other symptoms.

The second patient was a 59-year-old mother of eight children who had had a blood pressure averaging 200/100 since the birth of her last child, at the age of 38. Four years prior to admission a cerebral hemorrhage had resulted in a week of unconsciousness, but left no neurological sequelae. Another similar, but less severe, episode was said to have occurred 18 months prior to admission, again with no sequelae.

For several years she had had symptoms suggestive of hiatus hernia. For the last six months, she had had attacks of pain, vomiting, and dyspnea three or four times a week. As in the first case, she had not responded to medical therapy. She had lost 15 pounds. X-ray (Figure II) showed a significant segment of the stomach above the diaphragm.

Physical examination showed her to be moderately obese, despite her weight loss. Blood pressure was 160/100. Despite her relatively good general condition,



she was felt by the surgeon to be a better candidate for an abdominal than for a thoracic approach.

At surgery a good repair was accomplished. The post-operative course was complicated by a wound infection with hemolytic staphylococcus aureus but there has been no recurrence of the previous symptoms. The patient swallowed without fear for the first time in months.

The third patient, a 72-year-old white female, gave a history similar to the previous patients. Physical examination revealed a short, plump, elderly woman who appeared to be in good general health. She had a moderate kyphosis. Her X-ray showed a moderately large hiatus hernia, (Figure III). The abdominal route was chosen for the repair of this large hiatus hernia because of her age, kyphosis and because there was no indication of mediastinal fixation.

At surgery, no particular difficulty was encountered in reducing the hernia. Repair was considered somewhat less than satisfactory due to thinning and attenuation of the crura of the diaphragm posterior to the hiatus. However, repair which should prove adequate was performed. The post-operative course was uneventful and the patient left the hospital on the eighth post-operative day.

#### TECHNIQUE OF OPERATION

The technique of abdominal repair is relatively simple. There are differences in methods described by various surgeons, but if the basic principles are observed, a good result should be obtained.

The incision is made in the midline from a little above the xiphoid to a little above the umbilicus. The xiphoid process is removed. This gives a relatively good exposure of the esophageal hiatus. After opening and exploring the peritoneum, the triangular ligament, attaching the left lobe of the liver to the diaphragm, is incised and the liver is retracted medially. In most cases this folds in quite well and can be kept out of the way with a Dever retractor and a laparotomy pad. The esophageal hiatus is then quite plainly in view. At this point blunt finger dissection of the stomach from the mediastinum is performed. This is relatively blind and its success depends upon getting into the proper cleavage plane. With large defects in the hiatus, two sets of fingers can usually be introduced into the posterior mediastinum. The aim of dissection is to have the esophagogastric junction lie freely and without tension at the level of the hiatus. Usually no significant bleeding is produced, but the possibility should be considered and careful search made for bleeding points. A tape is then passed around the esophago-gastric junction, which is retracted laterally. The crura of the diaphragm posterior to the esophagus are identified and three or four sutures are placed approximating the crura without tension. This should be done in such a way that the esophagus lies fairly loosely in its re-established hiatus. If one stitch too many is taken,



FIG. 3. Seventy-two-year-old white female who had difficulty swallowing increasing over a two-year period.

there is an occasional complaint of difficulty in swallowing in the post-operative period. Following closure of the hiatus a few sutures are taken between the phreno-esophageal ligament, a loose and ill-defined extension of transversalis fascia surrounding the esophago-gastric junction, and the diaphragm. There should be no sutures between the esophagus and diaphragm.

Post-operatively, a Levine tube is left in place for about 24 hours. Liquids and soft diet are started as soon as peristalsis begins.

#### DISCUSSION

The three patients presented have had good short term results. There is every reason to feel that the long term results will be as good as if the transthoracic approach had been performed.

In the first case there were adequate reasons, i.e., heart disease, emphysema, and kyphosis, for staying out of the chest. In the second and third cases, the reasons were less clear cut. Perhaps the best reason was the surgeon's instinctive feeling that these patients were not good candidates for a thoracic approach.

It must be emphasized that larger hernias done by the abdominal method should be very carefully selected. A history of long-standing, severe esophagitis, with or without ulcerations, would imply the possibility of an esophagus so fixed that it could not be freed by blunt dissection from below. Careful X-ray and esophagoscopy examination minimize the possibility of selecting the wrong approach.

From the patient's standpoint operating time is about that of cholecystectomy. Operative trauma is about

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# An Unusual Case Of Aplastic Anemia

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An eighteen-year-old college student, acting as a counselor at a summer boys camp, was admitted to the hospital with the complaint of jaundice of one day's duration. Until that time he had been essentially well. On the day of admission, it was noted that his eyes and skin were icteric and the young man was admitted to the hospital for purposes of study. He had no complaints and felt fine.

The patient's past history was extremely bland. He had had no injections during the six months preceding the onset of jaundice. On the day before admission, he was given two injections, 0.5 cc. of D.P.T., and 1 cc. of poliomyelitis vaccine. These were given by a registered nurse and were given in separate syringes and in separate sites. Two weeks before this, there had been one day when the patient did not feel well. His temperature was taken and it was between 101 and 102 degrees. He had some chills accompanying this episode and was given one aspirin tablet and was put to bed where he remained over night. He had no other complaints, no cough, no signs of an upper respiratory infection. There was no known exposure to any contagious diseases, etc. On the next day he was afebrile and felt much better and continued his usual occupations. Since that episode he was entirely well until the present onset of jaundice. There had been no exposure to any one else who was jaundiced.

As an infant the patient had celiac disease. Family history was entirely negative; both parents are in their forties and both are living and well; one younger brother, age 12, living and well. There was no history of familial diseases. For about 24 to 36 hours prior to admission, the patient noted his urine becoming dark in color and stools becoming more and more clay-colored. He smoked a pipe occasionally, had no loss of appetite, no anorexia, no nausea, no vomiting, no diarrhea. During the 24 to 36 hours preceding the onset of jaundice, the patient did notice the onset of some pruritus. He had no aches or pains, no fatigue, and no other complaint. He had a history of mild allergies to tomatoes and dust. Two months preceding this episode, the patient took one Chlor-Trimeton® tablet because of a mild sinusitis.

Physical examination revealed a well-developed, well-nourished, athletically built young white male who was obviously jaundiced but was not in any way uncomfortable, nor did he appear acutely ill. The skin was warm and dry and deeply tanned but had an abnormal amount

of golden color to it. There were a few purpuric areas over the trunk and on the right lower leg. Eyes were essentially negative except for the presence of a moderate amount of yellow color to the sclera. Pupils were round and equal, reacted to light and accommodation. Ears, nose and throat were negative. Neck, no rigidity, no lymphadenopathy. Lungs were clear and resonant throughout. Heart was not enlarged; rate and rhythm were normal; no murmurs were audible. Abdomen was soft, no masses, tenderness, or rigidity present. Liver, kidneys and spleen were not palpable. Back was negative. External genitalia normal; rectal examination was essentially negative. Stool on the examining finger was greyish in color. Extremities negative; reflexes physiological and equal bilaterally. Temperature was 98.6; blood pressure 130/70; pulse was 64. Admitting diagnosis was probable virus or infectious hepatitis. Initial laboratory studies were done and revealed the urine to be positive for the presence of bile and positive for urobilinogen in full strength, negative in 1 to 10 dilution. The urine was otherwise negative. Red blood count was 4,900,000; hemoglobin 15.4 grams; white blood count 4,300; 64 polys; no bands; 25 lymphs, and one mono. All cells appeared to be normal.

During the next day or two after admission, several more purpuric or ecchymotic areas appeared over the neck, abdomen and legs. Patient continued to feel fine; liver remained non-palpable. He began to get some bleeding from the gums as well as from the post-nasal area, and although it is generally known that there seems to be a bleeding tendency in people with hepatitis, this degree of bleeding was a little more than one usually sees with hepatitis. For this reason he was started on Vitamin K1 oxide empirically and more laboratory work was ordered.

The urine was still positive for bile, positive for urobilinogen, now in 1 to 20 dilution and 20 to 25 red blood cells were seen per high powered field. There were no white cells and no casts. Hemoglobin was now 13.5 grams; red blood count 4,500,000; white count 3,600; 29 polys, 70 lymphocytes, and 1 monocyte. Platelet count was 88,000; sedimentation rate was 9. All cells appeared normal. Prothrombin time was 18.5 with a control of 15 seconds. Cephalin flocculation was 2 plus in 24 hours, 3 plus in 48 hours. Serum transaminase was 230 SGP-T units. The drop in the blood count began to arouse suspicion and the platelet count of only 88,000 further increased this suspicion. The patient developed several bleeding areas in the nose and mouth and several bloody blisters were present over

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the mucous membranes. More ecchymotic areas developed over the body. From this point on the bleeding tendency was ever present. He developed more and more ecchymotic areas and continued to bleed from the nose and mouth intermittently. By the sixth hospital day, the platelet count had dropped to 42,000, the white count to 2,000 with only 6 polys, 93 lymphs and 1 eosinophil. The red blood picture had not changed appreciably.

It was evident at that time that we were dealing with a thrombocytopenia and an agranulocytosis. The patient was started on vigorous steroid therapy by giving him Prednisone,<sup>®</sup> 100 milligrams daily in divided doses. He was also started on antibiotics in the form of Tetracycline, 250 milligrams four times a day. He was given a fresh whole blood transfusion on the sixth hospital day and within three hours of onset of this therapy the bleeding stopped and the patient felt noticeably more comfortable. He volunteered the information that with the exception of the bleeding which made breathing, swallowing, etc., uncomfortable, he felt fine and did not feel ill in any way. Heterophile antibody test was reported as zero (negative). Bone marrow studies were done from the dorsal spine and this revealed the marrow to be made up almost entirely of red blood cells with small areas of recognizable marrow architecture. There were only occasional nucleated red cells. No megakaryocytes were seen, nor were there any other recognizable precursors of the erythrocyte series.

The nucleated cells were almost entirely of the lymphoid series. This picture was one which was almost identical with that of the peripheral blood. It was thought that possibly the specimen was inadequate and a sternal bone marrow puncture was done the following day which revealed essentially the same picture. Because of the importance placed upon the bone marrow picture, specimens of the left iliac crest were taken and examined in the laboratory, and this again revealed exactly the same picture. Other blood chemistry studies which were done were: total protein 6.3; albumin 3.8; globulin 2.5; cholesterol 258; cholesterol esters 148; total bilirubin of 18, with a direct of 10; acid phosphatase 3.5; alkaline phosphatase 1.0. Stools became tarry and were 4 plus positive for guaiac. They were negative for bile and positive for urobilinogen. Serology was negative. Coombs Test was negative. Patient remained in excellent condition, good spirits, feeling well, and having essentially no complaints for the next week or so in spite of the fact that his laboratory picture became steadily more severe. The white blood count finally dropped to a total of 600 with 100 per cent lymphocytes; the platelet count dropped to a low of 20,000. Reticulocyte count was 0; sedimentation rate rose to 33; hemoglobin dropped to 10 grams with a red count of 3,100,000 in spite of almost daily transfusions.

At the beginning of the third hospital week, and the last week of life for the patient, the antibiotics were stopped because of the possibility that non-pathogens,

fungi, etc. might make their appearance and further complicate the picture. However, the bleeding tendency began once again in spite of our therapy. The patient bled from the right ear; more and more red blood cells were seen in the urine, until the urine became grossly bloody. He began to bleed once again from the nose, mouth, and gums. During the last two or three days of life, the temperature rose to 104 and 105 and remained at this level for about 48 hours. Blood cultures were taken and these were found to be negative. A large mass appeared in the last 24 hours of life under the right jaw, and it was thought that this might represent an abscess. An attempt was made to incise and drain this area, but it proved to be only brawny edema. Patient remained conscious until minutes before expiration when he had a generalized convulsive seizure and died.

Post-mortem examination revealed the skin to be icteric with pronounced hemorrhage in tissues surrounding venipuncture, bone marrow aspiration sites, etc. There was pronounced swelling of the right side of the neck and angle of the jaw, with hemorrhage in these tissues as well as into the skin in this area. The lungs showed focal areas of hemorrhage which, microscopically, consisted of hemorrhage into the alveoli themselves. The right middle ear contained blood stained material and fluid blood was present in the right mastoid bone. The brain was normal in all respects and all other viscera were not remarkable. The liver was normal in size and grossly and microscopically revealed no abnormality. The bone marrow was firm and, although deep red in color, microscopically showed only very rare cells of the erythropoietic series. No granulocytes or megakaryocytes were recognized.

The pathological diagnoses were:

1. Acute fulminating aplastic anemia.
2. Hemorrhage into the lungs, epicardium and retroperitoneal tissues.
3. Icterus, advanced.
4. Hemorrhage into the tissues of the right side of the neck.

Specimens of all tissues were obtained and sent to the State Toxicological Laboratories, but these were all non-revealing. There was no evidence of any infection.

A thorough investigation was made as to the possibility of this young man having come in contact with an agent which was toxic to him. In addition to the one Chlor-Trimeton tablet (4 mg.) which the patient had three months prior to onset, and one aspirin which the patient had two weeks prior to onset, the only other exposures were to the D.P.T. and polio which were given by injection the day prior to onset of this illness. It is inconceivable that these injections could produce such an effect within 24 hours, and it is the feeling of his physician that the picture was already making itself evident when these injections were administered. The only other agent which might produce cause for suspicion was an insect repellent product which is put up in a

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# Zonulysis

HOWARD F. HILL, M.D.\* AND LOV K. SARIN, M.D.\*

Since Barraquer in 1958 reported the use of an enzyme to free the cataractous lens from its zonular attachment, this technique has gained considerable favor among ophthalmic surgeons both of this country and abroad.

Alpha chymotrypsin is a proteolytic enzyme and has an effect which is similar to trypsin. It differs from trypsin, however, in that its hydrolytic action makes it more specific. Of the various fractions of chymotrypsin which may be obtained, the alpha fraction is characterized by its greater chemical stability and by its more steady diffusibility through tissues. It has greater proteolytic action than does trypsin.

Salmony<sup>1</sup> was one of the first to advise caution because this very potent material exerts its action, not alone on the zonule, but on most of the ocular tissues. The reason for its more rapid action upon zonule is not yet entirely clear, but this action is far in advance of any clinical or laboratory effects on the other structures.

At the American Academy of Ophthalmology and Otolaryngology in October, 1959 the Committee on the Use of Alpha Chymotrypsin in Ophthalmology advised that from the present knowledge this enzyme should not be used:

1. In patients under 20 years of age, due to increased danger of vitreous loss.
2. In cases of endothelial dystrophy, because of its possible effect upon the abnormal cornea.
3. In cases with dislocated lenses, or when the vitreous is in the anterior chamber.

The committee reported a marked increase in striate keratitis when the enzyme was used, but that it had no effect upon wound healing or upon gut suture material. Further study and due caution was advised.

From the current literature there seems to be general agreement that it should not be used in patients under 15 or 20 years of age, and that it has little value in the older senile group of cataracts. Its greatest advantage is in the younger group of adult cataracts from 20 to 60 years, especially those with tough zonules. In this group it appears that the low incidence of adverse side effects is more than offset by the fact that the lens extraction is definitely facilitated and hazards of intracapsular extraction are reduced to a minimum by chemical zonulysis.

In our experience with alpha chymotrypsin, the re-

sults have been dramatic in the younger group, best demonstrated in a few cases of second eyes in which there had been evidence of tough zonules in the first eye. In this series, little or no striate keratitis was observed, presumably because a sliding technique was used. Instrumentation with the erisiphake with the lens luxated forward, and especially with tumbling, may be the reason for the reports of increased striate keratitis. Striate keratitis has been reported to be increased in the combined use of the erisiphake and tumbling and the enzyme.

In our experience with the enzyme, it is felt that the following conservative points should be emphasized.

1. The enzyme should not be used in the very young or perhaps under 20 years of age.
2. It is of very questionable value in the very old patient.
3. If it is used in the older senile group of cases, it can be used as an adjunct to the regular method of extraction. One should inject the enzyme in the usual way but neutralize it in two minutes. The zonule will be weakened but the lens will not be completely luxated and extraction thus facilitated.
4. If the enzyme is used for a longer period before neutralizing, especially in the younger group, full luxation may occur. When it does, it is manifested by the lens pushing upward and assuming a more globular shape. This may take from three to four minutes. With this condition present, a sliding technique seems safer. McLean's<sup>2</sup> new forceps are excellent for this purpose.

5. In using a sliding technique it is well to have counter pressure near the lower pole of the lens in the usual manner, in case the capsule slips away from the forceps or breaks. In this way one can hold the lens up in position for a re-application of the forceps.

6. Tumbling at any time with a partial or totally luxated lens could be dangerous without the zonular hinge intact above, at "12 o'clock."

Chandler<sup>3</sup> has tried to inject the enzyme under the iris, only in the lower portion, to facilitate tumbling of the lens. However, if one watches the flow of the material under the iris it is quite evident that it diffuses upward and may well weaken the zonule at the upper pole. If this occurs, it would increase the risk of tumbling the lens.

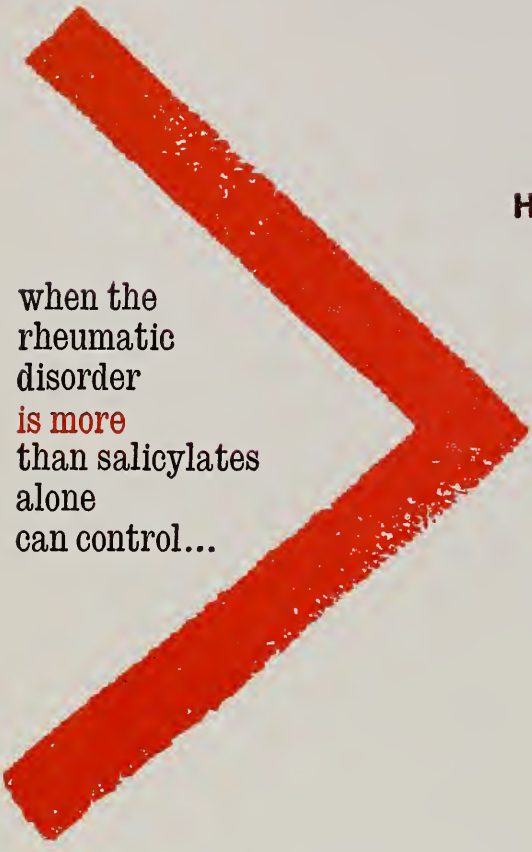
7. The enzyme should be used very gently under the iris because of trauma to the iris, zonule or hyaloid.

8. The surgeon should not take his eyes off the canula

*Continued on page 60*

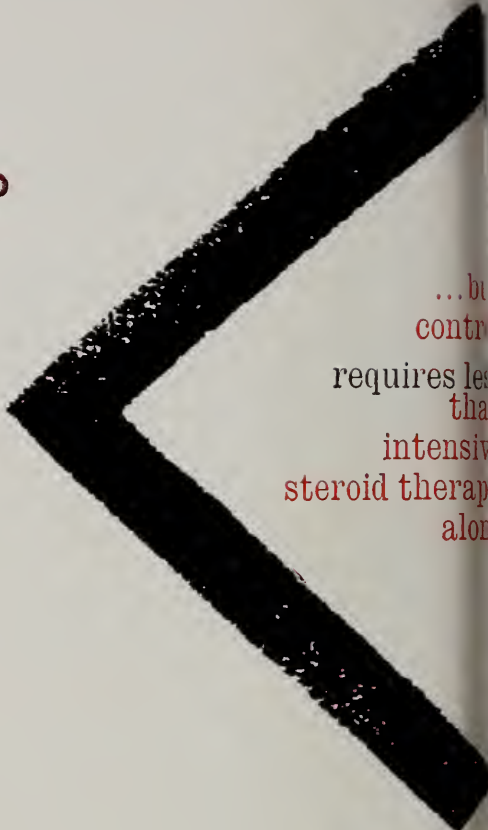
\*From the Ophthalmological Service, Thayer Hospital, Waterville, Maine.





when the  
rheumatic  
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is more  
than salicylates  
alone  
can control...

MORE  
HIGHLY INDIVIDUALIZED  
THERAPY  
FOR THE  
RHEUMATIC  
"IN-BETWEEN"



...but  
control  
requires less  
than  
intensive  
steroid therapy  
alone

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# Asymptomatic Cardiac Lesions Occurring In A Viral Disease — Report Of Two Cases

JACOB M. JACKLER, M.D.\*

In the autumn of 1959 there occurred an epidemic of a viral disease with a high incidence of chest pains consistent with pleurodynia. This report concerns two patients who had this viral disease who developed cardiac lesions unassociated with any clinical symptoms to suggest cardiac disease.

Case 1. A 65-year-old male executive who, after having an upper respiratory tract illness for one week, developed severe chest pains which lasted for six hours. At the age of 20 years, a heart murmur was discovered at a pre-induction service physical examination. He never experienced any cardiac symptoms, although he went through active combat in World War I and home defense rescue work in London, England, during World War II. On admission to the hospital his temperature was 100.4°, pulse 84/minute, blood pressure 130/70, scattered inconstant crackling rales throughout both lung fields; the heart was enlarged to one centimeter beyond the midclavicular line and the rhythm was regular. There was a grade four (zero to six) rough medium-pitched holosystolic murmur in the aortic area radiating to the left axilla, up the neck vessels, and down the vertebral column to the mid-sacral area. The second aortic sound was well defined, distinct, and of greater intensity than the second pulmonic sound. There were no thrills, no diastolic murmurs, no signs of subacute bacteria endocarditis, or vascular insufficiency of the legs.

Laboratory studies revealed normal findings for urinalysis, hemoglobin, red blood cell count, non-protein nitrogen, fasting blood sugar, V. D. R. L. Test, and four blood cultures. The white blood cell count was 13,200 with a 85% polymorphonuclear cells, sedimentation rate 47, and the serum transaminase was 16 SGOT units (normal limits up to 40 SGOT units). The electrocardiogram was within normal limits; the heart shadow by X-ray examination, was slightly enlarged with the lung fields showing increased marking in the left base with a thickening (? fluid) in the right lower interlobar fissure.

The admitting diagnosis was that of acute viral disease, viral pneumonitis, acute pleurodynia, and probably congenital heart disease, either bicuspid aortic valve or sub-aortic valvular web.

With bed rest and non-specific therapy, the patient became afebrile within twenty-four hours, and was asymptomatic except for a dry non-productive cough.

Daily cardiopulmonary examinations were not remarkable and the white blood cell count dropped to 11,000. On the fifth hospital day, routine auscultation of the heart revealed a loud rough to and fro periodical friction rub, unassociated with any other unusual physical findings. The patient had no complaints and was feeling "much better." Laboratory studies revealed that the white blood count had risen to 19,300 mm<sup>3</sup>, with 80 percent polys, the sedimentation rate had increased to 95 mm/hr, and transaminase was 13 SGOT units. The electrocardiogram revealed lowering of the T waves throughout all leads, without any other changes and the chest X-ray showed enlargement of the cardiac silhouette by one centimeter, since the admission chest X-ray.

The pericardial friction rub lasted one day and never recurred. A broad spectrum antibiotic was employed for four days without any change in the previous uneventful status. At the time of discharge on the 11th hospital day, the cardiac findings were the same as on admission, sedimentation rate was 21 mm/hr and the white blood count was 6,000/mm<sup>3</sup>. Chest X-ray revealed that the heart size had returned to normal with an increase in the size of the shadow in the interlobar fissure. The electrocardiogram was definitely abnormal due to isoelectric T wave in all leads.

The post-hospitalization course was uneventful except for one episode of syncope occurring three weeks after discharge. This syncopal episode was believed due to right carotid sinus sensitivity, since pressure on the structure caused faintness and a decrease in cardiac rate to ten beats per minute. Evaluation one month after discharge revealed that the interlobar fluid has disappeared and the heart size was normal with good amplitude of cardiac pulsations. The E. K. G. was unchanged, still abnormal due to generalized isoelectric T wave changes. He has resumed full activity without sequelae.

Case II. A 78-year-old woman represents a case of severe cardio-pulmonary involvement with viral disease. She had had a cholecystectomy, hysterectomy, and simple left mastectomy for a benign tumor, and had diverticulitis of the colon, osteoarthritis of the knees, and scoliosis of the thoracic vertebral column. Her cardiovascular status has been of borderline quality for the past two year, having postural hypotension, carotid sinus sensitivity to the degree that complete asystole can be caused by pressure on the right carotid sinus. In addition, there have been episodes of temporary behavior changes, consistent with vascular insufficiency of the

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brain. Four months before admission, she developed a mild agitated-depressive state, which responded to Tofranil®, 25 mgm, t.i.d., after no response to other mood-affecting medications. Spinal fluid studies (pressure, protein, Pandy, colloidal gold and cells) were normal and there were no localizing signs, other than episodes of trembling of the right hand, following episode of cerebral vascular insufficiency. Her cardiac status was stable, with no cardiac enlargement, blood pressure of 170/90, no heart murmurs, and normal electrocardiograms.

At the time of hospital admission for surgical treatment of a cataract of the right eye, her white blood count and chest X-ray were normal. Four years previously, she had a similar operation on the left eye without any complications. On the eleventh hospital day, while preparing to be discharged, the patient felt "weak." She appeared pale with drawn face, but her comprehension was unaltered and accurate. There was no cough, chest pain, or dyspnea. There were no cardiopulmonary symptoms, nor did any such symptoms ever appear at any time. Her blood pressure had fallen to 100/70, pulse rate was 140 per minute and there was a loud to and fro pericardial rub audible at the apex. The carotid pulse and leg veins were not remarkable. An electrocardiogram showed sinus tachycardia without Q.R.S. changes but low T waves over the left pericardium. Following rapid digitalization and bed rest, the cardiac rate dropped to 100/min within four hours. Daily doses of digitalis were added to her previous medication (Tofranil and Placidyl® 500 mgm h.s.). The following morning, the pericardial friction rub was gone; the white blood count was 18,000/mm<sup>3</sup> with a sedimentation rate of 98 mm and a transaminase of 165 S.G.O.T. units.

Three days later, she complained of constipation, which was relieved by removal of a fecal impaction. The blood pressure was 130/70 with a cardiac rate of 80/min; there was decreased fremitus, egophony, whispered pectoriloquy and a pleuritic friction rub at the lower one-third of the left lung posteriorly. Chest X-ray revealed a left pleural effusion and a marked enlargement of the heart, occurring since the admission X-ray examination. Of special importance was the fact that except for the pleural effusion the lung fields were not remarkable on the X-ray study. The white blood count was still 18,000/mm<sup>3</sup>, while the sedimentation rate rose to 117 mm and the transaminase dropped to 46 units. Declomycin® 150 mgm every 6th hour was started by mouth, and continued for four days. In spite of the various clinical findings, the patient lay on one pillow, without any symptoms, ate and slept well, and felt "much better."

By the seventh day of the illness, the blood pressure, pulse, and cardiac auscultation were unchanged. The pleuritic friction rub was gone, the signs at the left base posteriorly had improved until only decreased resonance, fremitus, and breath sounds were present. At

the angle of the left scapula egophony and whispered pectoriloquy were heard intermittently, suggesting an Ewart's sign of pericardial effusion. Chest X-ray, however, revealed a decrease in the heart size and a lessening of the pleural effusion while the lung fields remain normal. Electrocardiogram showed symmetrical T wave inversion in all leads except A.V.R., without Q.R.S. or S.T. changes, suggesting either pericarditis or myocarditis. The white blood count had fallen to 12,000/mm<sup>3</sup>, sedimentation rate to 60 mm, and transaminase to 38 units. A lupus erythematosus blood test, urinalysis, N.P.N. and F.B.S. and V.D.R.L. were normal.

On the ninth day of the illness she complained of difficulty in hearing, coincident with the return of the tremor of the right hand. She was discharged on the eleventh day of the illness to continue bed rest, digitalis, Tofranil and Placidyl at home.

One month following hospital discharge she was on limited activity, without any complaints other than arthritic pain in the left knee. Her blood pressure was 150/90, cardiac rate 80 and regular, and other than a grade II soft mitral systolic murmur, there were no abnormalities noted on cardiac and pulmonary auscultation. The heart had enlarged to the left axilla, and the apical thrust was now heaving and diffuse and quite evident by inspection. Cardiac fluoroscopy revealed that the heart had become larger to the left, but the amplitude of contractions were normal. The lungs were not remarkable and the left pleural effusion had remitted to a blunting of the left costophrenic angle. The electrocardiogram revealed a complete change in the T wave pattern; the symmetrically inverted T waves had been replaced by ST-T changes in leads I, II, III, AVF, V<sub>4</sub>-V<sub>6</sub>, suggestive of digitalis effect and possible subendocardial ischemia. The tremor of the right hand and hearing difficulty remained unchanged.

#### DISCUSSION

These two cases illustrate cardiac lesions which occurred during the course of a viral disease without the patient being aware of any cardiac symptoms. In the first case, a pericarditis appeared in a patient with probable non-dynamic congenital structural disease around or in the aortic valve and leaving an abnormal electrocardiogram as a residual effect.

In the second case, a pericarditis, pleuritis, pleural effusion and probably myocarditis resulting in cardiomegaly, was unassociated with any cardiac symptoms. Although the decreased cardiac output altered her vascular supply to the brain, her degree of awareness of symptoms was accurate to the degree that it permitted a diagnosis of fecal impaction to be made. At no time did she appear obtunded to the degree that cardiac symptoms may have been obliterated. The appearance of hearing difficulty was of interest and Dr. F. T. Hill, otolaryngologist, who studied this phase of the patient's illness, reports as follows:



"Shortly after the onset of present illness this patient noted a marked diminution of hearing in the right side, together with slight dizziness. This had been preceded by a tinnitus in the right ear. She had no history of previous ear trouble and stated that her hearing had always been good especially for one of her years.

"While examination of the ears appeared perfectly normal, her hearing on the right side was markedly lowered, both by speech and pure tone audiometry; while on the left side there was a less severe impairment noted. When she was retested six weeks later it was most interesting and encouraging to note that there was appreciable improvement in both ears, both by speech and pure tone audiometry, with a very definite improve-

ment in hearing by bone conduction in both ears. She obviously had a preceptive or nerve type deafness which could have been secondary to a virus type of infection or possibly to drug toxicity. She had been on Declomycin but, so far as we know, there has been no mention of toxicity to this product. The improvement evident in these six weeks would indicate that the condition probably was of viral origin."

Although the viral disease these patients experienced was suggestive of Coxsackie Viral Disease, no viral studies were performed in either case, and no viralogical diagnoses can be made.

14 Gilman Street, Waterville, Maine

### ABDOMINAL REPAIR OF LARGE HIATUS HERNIA — *Continued from page 52*

equal. The thoracic approach requires more time, a more uncomfortable incision, a more difficult anesthesia, and more involved post-operative nursing care.

#### SUMMARY

Three cases of moderately large esophageal hiatus

hernias repaired transabdominally are presented. In each case it was the feeling of the surgeon that a thoracic approach was undesirable although not absolutely contraindicated.

2 School Street, Waterville, Maine

### AN UNUSUAL CASE OF APLASTIC ANEMIA — *Continued from page 54*

spray can. This product contained as its active ingredient (15%) N,N, — diethyltoluamide. The patient had used this substance in its vaporized form for several weeks prior to onset of this illness.

#### SUMMARY

A case of total aplasia of the bone marrow (aplastic anemia) is presented. The features of this case which are felt to be unusual and worthy of report are:

1. Aplastic anemia itself, which is a condition that is not widely found.
2. The fact that this seems to have been caused by a

toxic agent, the presence of which we are unable to trace.

3. The complication of this picture by what was apparently a Toxic Hepatitis. In so far as cases of aplastic anemia have been reviewed, it is not uncommon for such cases to be complicated by jaundice (hepatitis). However, we have been unable to find a report of any such case of aplastic anemia where jaundice (hepatitis) was the presenting symptom, particularly while the blood picture was still essentially normal.

82 Elm Street, Waterville, Maine

### ZONULYSIS — *Continued from page 55*

while injecting. The assistant can readily control the amount of fluid injected.

9. The neutralizing solution should be directed into the anterior chamber and never under the iris. Several cases of ruptured hyaloid have been reported when such a procedure was used. The enzyme is inactivated by the aqueous and tissue fluids and irrigation of the anterior chamber should remove any excess.

In summarizing, alpha chymotrypsin seems to have a definite value in selected cases of cataract surgery. It

should be used with caution and certain safeguards are indicated with this procedure.

Note: This is only a preliminary report to a more complete analysis of zonulysis to be reported later.

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# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **A.M.A. Says Healthy Plan For Aged Is Too Costly**

In a sharply-worded editorial the (January 23) *Journal of the American Medical Association* lashed out against legislation proposing a federal compulsory health insurance program.

It referred specifically to legislation, introduced by Representative Aime Forand (D., R. I.), which would amend the Social Security Act by providing hospital, nursing home and surgical services for persons eligible for old age and survivors benefits. Eligibility age limits now are 65 for men and 62 for women.

#### *Forand Bill Costly*

"The Forand bill is a costly, irreversible program tailored to avoid the real problem," the editorial said, adding: "It is a fundamental deviation from the basic concept of the social security system which provides cash benefits, not services. It injects the federal government into the physician-patient-hospital relationship. Its enactment would be followed by control of the health care of the aged by the Social Security Administration.

"The strongest objection, however, to this kind of legislation is that it is unnecessary and would lower the quality of care rendered. Great progress is being made through voluntary enterprise supplemented by governmental programs that do not socialize the health professions. Voluntary prepayment plans and health insurance have made phenomenal advances during recent years. Already 43% of those aged over 65 years are covered by some kind of insurance, and it is predicted

that by the end of 1960, about 60% of those over 65 who wish to purchase such insurance will be covered. Social security cash benefits, private pension plans, increasing savings and liquid assets are all combining to improve steadily the economic resources and purchasing power of the group over 65."

"It is obvious," the *Journal* editorial continued, "that whatever problem exists is among the needy and near-needy aged who would be rapidly reduced to a state of destitution by prolonged illness. In recognition of this fact the Boards of Trustees of the American Medical Association and the American Hospital Association recently adopted a resolution dedicating their full resources to accelerate the development of adequately-financed health care programs for needy persons, especially the aged needy. Both organizations stated that 'the indigent or near indigent is primarily a community responsibility.' The resolution pointed out that the Forand bill fails to meet the need of the indigent aged since the vast majority of such aged are not eligible to receive social security benefits."

#### *Medical Plans For Aged Improving*

"Medical care programs for indigent citizens, especially those over 65, are improving. A new psychological climate for the aging is being created that promotes their productive utilization in society. New hospital designs more suitable and more economical for the care of the ambulatory aged, homemaker services, home-care services, improved nursing homes and other positive action programs are proceeding at a rapid pace. Thus,



voluntary and governmental enterprise that preserve individual responsibility and free choice have teamed up in recent years and are moving rapidly to resolve whatever problems still remain.

"It will always be possible to do a better job, but the one development which would apply a brake to all of these progressively developing movements would be Forand-type legislation. To bureaucratize medical care by funneling its services through the social security system would supply a 'cure' that would be worse than the disease in its ultimate effects on individual freedom and a free society."

### **Impartial Expert Idea For Medical Testimony Spreads**

Plans designed to provide impartial medical testimony and speed settlement of personal injury claims appear to be gaining support, the *Journal of the American Medical Association* said recently.

Three out of every four cases on the nation's crowded court calendars require some type of medical report.

The idea that justice is best served by one doctor testifying as an impartial expert rather than two or more doctors presenting differing viewpoints has been endorsed by the American Association for the Surgery of Trauma.

According to the A.A.S.T., nine states have instituted programs whereby authoritative medical and judicial bodies agree jointly to cooperate in securing the testimony of impartial medical experts, or are considering such plans. The states are California, Illinois, New Jersey, Maryland, Massachusetts, Minnesota, Ohio, Pennsylvania and New York.

"The plan's greatest success, undeniably, is being chalked up in its birthplace, New York City," according to the article in the "Medicine At Work" section of the (January 23) *Journal*.

"There, where it has been in operation for seven years, recent figures indicate that questionable claims are dwindling and fewer cases are coming to trial. Why? Advocates of the system say it is because lawyers have recognized proficiency of the physician panel on matters of a medical nature."

C. Joseph Stetler, director of the A.M.A.'s Law Division, said, "Medicine does not feel that a panacea has yet been discovered, however, it does look with interest on such projects and considers them a constructive approach."

### **Kennedy's "Forand Bill" Omits Medical Features**

The leading Democratic contender for the presidential nomination has put in his version of the Forand bill. S.2915, filed by Senator John Kennedy (D., Mass.), is substantially the same as HR 4700 except that it omits surgical benefits. By staying away from payments to M.D.'s, limiting benefits to hospital and nursing

home services, it is Kennedy's hope that opposition by organized medicine will be minimal and yet the bill will have appeal to the aged.

Of course, the Senate Finance Committee won't touch S.2915 until the House Ways and Means Committee has acted on social security amendments and a bill has passed the House. Note: Notwithstanding the political potency of this issue, and with the Administration readying a Forand bill compromise (with encouragement of Vice-President Nixon), Ways and Means Chairman Wilbur Mills (D., Ark.) is so opposed in principle to legislation of this kind that he will not sponsor a "substitute" of any kind.

Fresh impetus will be given the campaign to have the government pay part of the medical bills incurred by the aging when the Senate receives this week the findings and recommendations of the McNamara committee, which has conducted a coast-to-coast inquiry into problems of the aged and aging.

### **Forand Bill Booked For March; Congress Briefs**

The House Ways and Means Committee is booked almost solid through February so it will be early March when this powerful group takes up social security amendments — including the Forand bill (HR 4700). Its leaders, both Republican and Democratic, hope that by then the Eisenhower Administration has sent up its substitute for HR 4700 in order to facilitate a compromise.

Impatient with the White House delay in offering a substitute, liberal Republican Senators are making sounds of dusting off the old Javits-Flanders-Herter-Ives-Nixon, etc., bill. This is a plan worked up in New York City for Federal subsidies to voluntary prepayment insurance programs to permit them to increase benefits and lower premium charges. Senator Jacob K. Javits (R., N. Y.), one of the few original sponsors still in Congress, may introduce an updated version of the bill.

Senator Stephen M. Young (D., Ohio) last week used a speech favoring social security reforms as a vehicle for attacking the A.M.A., particularly its opposition to the extension of OASI benefits to physicians when "evidence shows that 70 per cent of the physicians and surgeons in the U. S. desire to be included under the social security law."

### **Professional School Grants**

It is reliably reported that the Department of H.E.W. will soon submit to Congress its plan for construction grants to schools of medicine, dentistry and public health. For each year of the past ten, Capitol Hill has had a bill of this kind on its calendars but has taken no action. In the meantime, Representative George W. Andrews (D., Ala.) has filed a bill (HR 9673) to authorize \$35 million over a ten-year period to expand and improve facilities of existing and new schools of

veterinary medicine. His measure has the backing of AVMA's Joint Committee on Veterinary Education.

In his economic report to Congress recently, the President said: "The assurance of an adequate supply of doctors and other health personnel will require an expansion of medical training facilities." But he gave no clue as to how this expansion is to be accomplished.

### **Mental Patient Census Dropped Again in 1959**

For the fourth consecutive year, the number of patients in public mental hospitals in the United States declined, according to the National Institute of Mental Health. Its biometrics branch says there were 542,721 patients in 277 hospitals at the close of 1959, 2,142 fewer than the figure one year previously. Discharges during the year totaled 167,607, an increase of 7.2 per cent over 1958.

Dr. Robert H. Felix, director of the NIMH, credited "a prevailing improvement in the care and treatment of the mentally ill both in and out of mental hospitals." Specifically he mentioned enlightened public attitudes, new trends in hospital administration, wider use of psychoactive drugs and development of clinics and sheltered workshops.

### **Over-All Price Index Down; Medical Care Up**

Prices of consumer goods and services fell by 0.1 per cent between November and December but the "Medical Care" index rose, along with some others. It went from 153.0 to 153.2 (1947-49=100). Also up were prices of personal care, reading and recreation and miscellaneous goods and services. Food, apparel and transportation declined, with housing remaining the same. For ten selected cities, St. Louis had the highest index for "Medical Care," with 170.6. New York had the lowest, 143.5. Bureau of Labor Statistics attributed the December increase to "further scattered advances in fees for professional and hospital services."

### **Specialist Condemns Rash Of Open Chest Heart Massage**

The increasing use of open chest heart massage was criticized by a New York physician.

"The rash of thoracotomies (chest incisions) occurring in emergency rooms, medical wards and even ambulances must be condemned," Dr. Vincent J. Collins of New York University-Bellevue Medical Center wrote in the (February 6) *Journal of the American Medical Association*.

"... thoughtless thoracotomies are being performed without due consideration of the principles (of cardiac resuscitation and massage) and in the face of inadequate assistance and equipment," he said.

Dr. Collins, a specialist in anesthesiology, stressed that adequate personnel with the proper skill and equip-

ment, including someone with surgical skill and knowledge of the technique of heart massage, must be present.

This extraordinary measure, he said, should not be taken when heart collapse is precipitated by disease. Even in the operating room, where all skills are available and there is usually a preconceived plan of action, the incidence of successful resuscitation is "nil" in cases in which there is pre-existing cardiac disease, he said.

Suggestions that laymen be taught the fundamentals of cardiac resuscitation and massage, he added, ignore the fact that the success of the technique depends upon an understanding of the restoration of the entire oxygen system.

Dr. Collins commented on cardiac resuscitation in discussing deaths during anesthesia and surgery. He said "numerous reports of cardiac arrest in recent years leave the impression that fatalities from the conduct of anesthesia and surgery are on the increase." However, he said, the lack of specific definition and terminology relating to operating room deaths and of uniformity in compiling statistics make the problem difficult to assess.

A committee appointed by the A.M.A. House of Delegates currently is developing a classification of, and terminology for, hospital deaths due directly to anesthesia and/or operation. "Nevertheless, the over-all operating room mortality can be placed at 1 in 1,000 to 1 in 2,000 operations," he said. "If one reviews the available statistical reports one may further conclude that about one-third of the deaths may arbitrarily be attributed to anesthesia. Thus a rough incidence of anesthesia-related deaths is 1 in 3,000 to 5,000 anesthetics."

"The importance of medical causes of death is increasing because of the frequency of medico-legal and professional criticism," he said. "Such criticism is often based on the too ready assumption that every death occurring under anesthesia is caused by anesthesia or the anesthetist, in the absence of an obvious catastrophic event..."

He urged that every death under anesthesia be followed by post-mortem examination as regularly as are deaths occurring due to accidental or unknown causes or under suspicious circumstances.

### **Home No Longer Symbol Of Safety**

The home can no longer qualify as the symbol of safety and security traditionally ascribed to it, the *Journal of the American Medical Association* said recently.

The growing hazards attached to living in the modern home make it a decidedly unsafe place, according to an editorial in the (February 6) *Journal*.

"Current accident records, especially involving children but by no means excluding adults, indicate the necessity for revised thinking," it said. "There is a demand on health and safety officials, the medical pro-



fession, educators and enlightened public leaders to render progress toward easier living as safe as possible."

During the past 12 months, the editorial said, a great amount of publicity has been given to plastic bag suffocations, lead poisonings due to fumes from wooden battery cases burned for fuel and carbon monoxide poisonings due to inadequate ventilation of space heaters, particularly in trailers.

However, the *Journal* said, many hazards have appeared without fanfare, incidental to the introduction of labor-saving machinery and the application of modern chemistry to home cleaning and sanitation problems. Detergents, chemical cleansers and weed killers, all potential poisoners, were cited as examples.

"The dangers involved in increased use of potent drugs, particularly self-medication with barbiturates and other sleeping tablets, are increasing rather than diminishing despite warnings by medical and public health authorities," it said.

"Do-it-yourself equipment, particularly power tools, creates additional danger, especially in the hands of the unskillful.

"The hazard of carbon monoxide poisoning is not limited to trailers and shack homes. Even the modern heating system, if improperly vented, may feed back carbon monoxide into the home, as may gasoline motors left running unattended in closed, attached garages.

"Despite slowly declining home accident rates, a new look at safety in the home is certainly indicated. Probably the most important and the most difficult step is the alerting of an indifferent public without creating needless panic and unwarranted fears."

### **Optometry Praised And Attacked In Congress**

With The American Optometric Association on one side and the Veterans Administration and the A.M.A. on the other, a bill (HR 7966) authorizing inclusion of optometric care in the V.A.'s fee-basis, or "home town" service program received a Congressional hearing last Thursday. To exclude optometry, said A. O. A. witnesses, is not only to deny a profession its just due but constitutes an abridgement of free choice. By letter,

the A.M.A. warned that passage of HR 7966 could result in the deterioration of V.A. care for service-connected eye diseases and injuries.

Explaining its opposition, the V.A. testified that virtually all of the 41,000 compensable eye disability cases on its rolls involve pathology or trauma, therefore are beyond the scope of optometry. Seventeen full-time optometrists are on the V.A.'s payroll, working under the supervision of M.D.'s, it was testified.

### **Spanish Veterans Bill**

The V.A. and the A.M.A. also united in opposition before the House Veterans Affairs Committee to bills granting automatic service-connection privileges for in-patient hospital care purposes, for any disabilities of Spanish-American veterans. This benefit has been theirs since 1950, as far as *outpatient* care is concerned. The United Spanish War Veterans is seeking extension of the benefit. In opposition, the V.A. and the A.M.A. emphasized that passage would be a dangerous precedent, opening the way for other veterans' groups to demand identical benefits in the years to come.

### **Three Medicare Directives: ID Card, Blood, Permits**

The first three Medicare directives of 1960 are concerned, respectively, with the identification card, procurement of blood, and designation of the Medicare permit.

ODMC Letter No. 1-60 describes circumstances in which civilian hospital or medical care may be given servicemen's dependents who do not possess DD Form 1173, the uniformed services identification and privilege card.

ODMC Letter No. 2-60 redefines policy on payment for blood.

ODMC Letter No. 3-60 simply changes the name of DD Form 1252 from "Medicare Permit" to "Non-availability Statement, Dependents' Medical Care Program."



DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

# Epidemiology Of Hospital Centered Infections

ALTA ASHLEY, M.D., M.P.H.\*

The modern hospital serves a varied role; a place of healing for the sick and maimed, workshop for physicians, research laboratory for the study of diseases and their cures, and as a health education center for the professional staff, physician, patients and general public. A century ago, the hospital was little more than a place to die. Death was frequent and it mattered little whether it was from the original affliction or from infection acquired within the hospital.

For the past few years it has become evident that even in the best modern hospital, acquired infection is not unknown. This is especially true with regards to nursery infections and post-operative and post-partum staphylococcal infections. Such hospital centered infections are unfortunate, expensive, often tragic; and are in the most part preventable. Every means possible must be used to prevent them.

The control of hospital centered infections requires unrelenting effort on the part of all persons involved with the care and comfort of the hospitalized individual. An understanding of epidemiologic factors relative to spread of disease is desirable in formulating procedures for the control of (hospital centered) infection.

Infection is the result of the interaction of three factors; virulence of the organism, the resistance of the host, and the size of the inoculum. Two other factors to be considered in hospital centered infections are the reservoir (infected persons brought into the milieu) and vectors or transmitting agents (insects, healthy carriers, infected food, and contaminated inanimate objects). Whatever modifies the interplay of these factors affects the outcome e.g. tends to suppress the rate of infection. The modes of spread (vehicles), the susceptibility of the organism to changes in the environment, the age, sex, and distribution of the host and reservoir and location and type of infection determine the methods of control.

The portal of exit of an infecting agent is one of the most important factors in determining its ease of spread.

Most agents use but one portal of exit. If there are two one is definitely subordinated to the other. e.g. poliomyelitis (fecal over respiratory) smallpox (respiratory over skin lesions). Infectious diseases to which human infection is a blind alley, e.g. trichinosis, malaria, tetanus, need no isolation techniques to control spread; diseases contracted through venereal contact almost exclusively can be handled easily in open wards. Respiratory spread is constant, spread through fecal contamination is intermittent, not only because defecation is intermittent but actual excretion of organisms into the fecal contents is also intermittent in some diseases, for example in the typhoid-dysentery group.

Susceptibility of the organism to changes in environment plays a large role in disease control. The spread of organisms which are susceptible to drying can be retarded by controlling the immediate environment of the patient through gowning, masking and handwashing. Those organisms which resist drying or high temperatures such as spore formers, the virus of serum hepatitis, and the staphylococcus, require much more rigid control of the air, clothing and equipment to prevent their spread.

The staphylococcus, which may be excreted by the respiratory tract, the skin, in the feces; or carried without infection in the nose, throat, on clothing and skin; resists changes in environment — drying, short periods of heat, chemicals (chemotherapeutic agents) and taxes man's ingenuity to develop measures of control.

The modern hospital is by its very nature an excellent example of the interplay of these factors. The very young, the very old, the maimed and debilitated make up a large part of hospital population. They are also the group which is most highly susceptible to infection, and which are most in need of hospital care. Infections which have failed to respond to home care are also found in hospitals! The causative organisms have already acquired, to a large degree, resistance to many antibiotics. Thus, within most hospital walls are congregated many sources of infection and a group of persons highly susceptible to those infections.

\*District Health Officer.



Hospital centered staphylococcal infection is a prime example of the effect of drugs on an infecting organism. The widespread use of antibiotics both within the hospital and in the community at large has apparently destroyed the balance between saprophytic and pathogenic organisms so that drug-resistant pathogenic organisms have increased to levels enabling them to infect apparently healthy hosts. Means of attack are to try to restore the saprophytic-pathogenic balance through the regulation and limitation of drug therapy, to find an effective agent to destroy the organism in the environment, and to improve isolation techniques.

Diseases such as smallpox, typhoid, diphtheria and polio in which effective active immunization is available are best controlled by diminishing the susceptibility of the host through prophylactic immunization. Immunity against such diseases among hospital staffs should be kept at as high levels as possible through periodic inoculations. The use of influenza vaccine in season is also recommended.

Susceptibility of exposed individuals can be reduced also through passive immunization produced by means of gamma globulin in such diseases as infectious hepatitis, measles and german measles; by diphtheria antitoxin and by hyper-immune pertussis serum when indicated.

Staff members at risk regarding tuberculosis should be protected by constant vigilance through skin testing and roentgen chest examination. Under certain circumstances, the use of BCG may be considered as a means of protection.

The danger of outbreaks of common contagious diseases can be minimized in pediatric departments by careful admission histories as to possible prior exposure, immunization and contagious disease experience of all children admitted; isolation of those with fever of undetermined origin; use of passive immunizing agents in exposed susceptibles; and discharge of susceptible patients who can be safely discharged before onset of communicable state, and isolation of those not able to be discharged.

Isolation techniques are means by which we try to reduce the spread of disease through controlling the environment, including the vehicles of spread (flies, fomites, foods, and healthy carriers).

Enteric diseases are spread in large part through fecal contamination of the environment although enteroviruses may also be isolated early from throat washings. The excreta, then, must be handled with care; enema cans, bedpans, etc. must be sterilized; personal linen and bedding must be regarded as contaminated; and all unused foods, drink, and objects handled by the patient destroyed or cleansed. Persons working about such a patient should be gowned, and great care must be taken as to hand washing when leaving the room. Isolation in separate quarters is desirable for such patients and especial attention paid to fly control. Persons coming in direct contact with cases of enteric disease, such as

salmonellosis and shigellosis must have their urine and stools cultured in order to be sure infection has not taken place during the time of exposure.

In the control of diseases spread by droplet infection without evidence of spread through fecal contamination, the point of attack is the reduction of droplet contamination of the air breathed by contacts through masking, ultra-violet irradiation of the air, air conditioning, chemical prophylaxis, and care in disposal of material soiled by sputum. Frequent examination and culture of the nose and throat of attendants is most important when colonization of healthy persons occur, as in staphylococcal, streptococcal or diphtheritic infections.

Constant watch for evidence of infection must be maintained, particularly in post-operative and post-partum patients, newborns and infants. Diarrhea or a sudden rise or drop in temperature in a newborn are signs of impending danger from infection for which a source should be sought and from which other members of the nursery should be protected by strict isolation techniques. Development of skin lesions, however insignificant, among these patients and their associates, is an indication of a possible staphylococcal outbreak within the hospital or ward.

The spread of infection from the hospital to the community is an ever present problem. When patients who have entered a hospital with infection or who have acquired infection while hospitalized are discharged with infection still present, the family should be instructed in proper techniques for handling such patients and in the need for release cultures, if such are required by the Rules and Regulations of the Bureau of Health.

Staphylococcal infection poses a particular problem in this regard. Often, hospital discharge occurs during the incubation period or the patient develops inapparent infection which none-the-less renders him a source of infection to others. This is particularly true of post-partum patients and newborns. When a staphylococcal problem is known to exist in a hospital, follow-up of discharged patients should be done either by telephone or through public health nursing services.

If recently discharged patients are readmitted because of staphylococcal infections, it is apparent that a hospital-centered problem exists. Diligent search for the source of infection must be made and appropriate means of combatting the infection instituted.

It is the legal responsibility of the administrator of a hospital to report to the Local Health Officer or to the Bureau of Health all cases of reportable diseases. Occurrence of any unusual communicable disease or any outbreak should be reported immediately to the Bureau of Health. This is a most important step in the finding of sources of such infections, which may be unrecognized in a community, particularly one remote from the hospital.

With proper attention to means of infection control the modern hospital need not fear that it will return to play the role of pest house or become a source of infection for its patients, staff or the community.

## Report Of Delegate To A.M.A. House Of Delegates

### Clinical Meeting, Dallas, Texas, December 1-4, 1959

President Orr in his address to the Delegates highlighted the two most important problems facing Medicine today. The first being "the opening maneuver in a scheme to bring federally controlled medicine in the form of Forand type legislation" and secondly "the serious lack of qualified, dedicated young people being attracted to the study of medicine."

The solution to the former was suggested by urging each delegate to orient all other physicians concerning the inherent danger of such legislation and "to urge each state and county society to carry out a vigorous and imaginative program with respect to aging and the health care of the aged."

The problem of inadequate physicians was verified by many recently available facts. The House of Delegates acted by agreeing with the Trustees that a "Special Study committee" be appointed whose tasks were outlined. These were specified as follows: "Establish a scholarship program to be supported by the A.M.A., attempt to expand and investigate the possibility of new medical schools, investigate the securing of competent medical facilities, investigate the most economical method of obtaining high quality medical training, and develop methods of getting well qualified students to undertake the study of medicine."

Realizing this problem, the A.M.A. has already produced a film "I am a Doctor" which is now available at the office of the M.M.A. to any society for showing to high school and college students to interest them in medicine as a profession.

In addition to group propaganda, each physician in the course of his practice should try to interest qualified students in the field of medicine. Physicians should make an effort to have medicine included in any career guidance programs in their communities. Industry is spending tremendous sums to attract young scientists to its particular field. Until now, the medical profession has made no concerted effort to attract young men.

I would strongly suggest that each county society appoint and immediately activate from among its most dynamic members a "Committee on Aging" and a "Committee on Guidance Toward a Medical Career."

The future of medicine in America is at stake and may well be determined by the degree to which these two committees do their jobs. If the state and local county societies could make known to the communities that a Speakers Bureau and specifically designated physicians are available to talk to students in groups or individually about "Medicine as a Career," an important step in our educational program will have been taken. Of equal importance is the offering of our services to communities to assist them to plan for care of the aging. A letter is urged from each county society to each municipality in its area offering the assistance of the medical profession toward the solution of their problems of aging.

These gestures are needed now and the work they will entail will be required later.

## Other Items From The House Of Delegates Meeting

### OWNERSHIP OF PHARMACIES:

A Judicial Council opinion: that "it is not in and of itself unethical for physicians to own pharmacies or hold stock in pharmaceutical companies but that under certain conditions this may become unethical." It is the obligation of the local medical society to insure that no one of its members violate the high ethical tradition of the medical profession. Complaints against its members are to be investigated and appropriate action should be taken by the County Society.

### MEDICAL RATING OF PHYSICAL IMPAIRMENT:

There have been completed two "Guides to the Evaluation of Permanent Impairment" on the Muskulo-Skeletal System and the Visual System. The committee has just completed its third in the series on the Cardiovascular System. It will soon be appearing in the J.A.M.A.

### RELATIONS BETWEEN MEDICAL SOCIETIES AND VOLUNTARY HEALTH AGENCIES:

Because of the importance of these matters to the state as well as county medical societies pertinent excerpts of "The Suggested Guides" are quoted: "Since the medical society and voluntary health agency are engaged in community health protection, the recognition of mutual obligation and promotion of mutual understanding is imperative."

Among such mutual obligations are the following:

1. Liason should be arranged between medical societies and health agencies by the selection of physician mem-

bers of the agencies governing bodies from physicians suggested by or known to be acceptable to the medical society.

2. The medical society and health agency should jointly establish basic policies regarding medical care, preventive medicine, and all matters involving physicians and their relations to the agency, its members, and the clients.
3. There should be cooperative program planning in terms of local, state, and national needs and joint evaluation of accomplishments.
4. An agency should comply with the "Principles of Ethics of Fund Raising" formulated by the National Social Welfare Assembly and be willing to have its accounting procedures audited in order to establish confidence in its financial integrity.
5. There should be mutual exchange of information and opinion so as to permit the medical society and the agency to understand and accept each other's policy and practice.

### EXAMINATION OF PRIVATE PILOTS:

That the physical examination for pilots' licenses be done only by those physicians qualified to make aeronautical type examinations.

### TETANUS TOXOID AND OTHER IMMUNIZATIONS:

The A.M.A. urges the citizens of our nation to get proper



tetanus toxoid, original and booster, and other immunizations as indicated from their physician.

#### SAFETY OF RADIOLOGICAL EQUIPMENT:

A.M.A. urges all state and county medical and dental societies to cooperate in a campaign of inspection and testing of all fluoroscopic and radiographic equipment in cooperation with the State Department of Health.

#### RURAL HEALTH:

A.M.A. urged further cooperation between medicine and farm organizations in sponsoring medical scholarship and loan fund programs.

#### MEDICAL CARE IN NURSING HOMES:

In an effort to improve the quality of care in nursing homes a pamphlet "Guides of Medical Care in Nursing Homes and Related Facilities" has been developed by the Committee on Medical Facilities. It is urged that every physician caring for patients in nursing homes cooperate in this worthwhile attempt to raise the standards of nursing home care. These will soon be published in J.A.M.A.

#### INDIGENT CARE:

The A.M.A. Council on Indigent Care made the following recommendation that: 1. The medical profession actively participate in the whole problem of aid to the needy including administrative, eligibility, financing, and the range and quality of medical service provide. 2. County and State associations study problems involved in financially catastrophic illness with a view to evolving community programs to help finance needed treatment without requiring the normally self-supporting patient to go on public assistance rolls.

#### VOLUNTARY INSURANCE FOR THOSE OVER 65:

The Rhode Island Medical Society has enrolled nearly 60% of the eligible population of the state over the age of 65 years.

Thirty-three State or County Blue Shield plans and 62 private insurance companies are offering coverage for persons over 65 years.

It is emphasized that this effort to extend voluntary coverage is the most important effect to date to offset "Forand type" legislation.

#### FEDERAL MEDICAL SERVICES:

In order to more equitably control the admission of non-service connected disabilities, the A.M.A. Council recommended that:

- A. The government develop a realistic definition of "disability to defray necessary expenses." 1. Undertake a realistic comparison cost of care between federal and private hospital. 2. Develop a priority system for acceptance of non-service connected care.
- B. Medical societies and physicians. 1. Assist in obtaining needed care for those veterans with financially catastrophic illnesses. 2. Help veteran patients determine the probable cost of care so that they may more accurately

judge their ability to pay, considering the extent of their insurance coverage. 3. Cooperate with V.A. hospitals in estimating the cost of private care in order to facilitate the admission of such catastrophic care. 4. To take necessary steps to assist veterans and their organizations in assuring that this care is provided those who need it most.

#### COMMITTEE ON AGING:

The A.M.A. committee "believes that it is imperative that the medical profession provide its special knowledge to those working on problems of aging and vigorously make its leadership felt at national, state and local levels."

#### DRUG COSTS FOR WELFARE RECIPIENTS:

The House of Delegates respectfully suggests that physicians prescribing for welfare patients use the generic name rather than the trade name, and give consideration to the more frequent use of accepted drug products of reasonable cost in the treatment of welfare patients.

#### RELATIONSHIPS BETWEEN PHYSICIANS AND HOSPITALS:

The Guides as adopted by The House of Delegates in 1951 (J.A.M.A. 147: 1684-1685, Dec. 22, 1951) were reaffirmed. The essentials of these guides are that: 1. A physician should not dispose of his services to any hospital under terms which permit the sale of his services for a fee. 2. Financial arrangements between the hospital and the physician may be placed on any mutually satisfactory basis.

#### LEGISLATIVE ACTIVITIES:

In the 86th Congress there were 13,892 bills introduced, 1000 of these were of some possible health significance, 77 were considered by committees, 6 were passed into law. The A.M.A. representatives favored 14 of the bills, provided information on 4 and disapproved only one; the Forand Bill.

#### MILITARY MEDICAL AFFAIRS:

It was recommended to the President that a medical representative be added to the Joint Chiefs of Staff organization.

#### NURSE EDUCATION:

It was recommended that physicians make themselves available upon request to serve on advisory committees on nurse education at the national, state and local level.

#### FREEDOM OF CHOICE:

This was more explicitly restated in the following words, "The A.M.A. subscribes to freedom of choice of physician and free competition among physicians as being prerequisites to optimal medical care. The benefits of any system which provides medical care must be judged on the degree to which it allows or abridges such freedom of choice and such competition."

PHILIP P. THOMPSON, JR., M.D.

# Necrology

JAMES MITCHELL PARKER

1908 - 1959



On November 17, 1959 the Medical Profession suffered a sudden loss in the death of James Mitchell Parker. His career abruptly terminated in the prime of life, left many of the projects closest to his heart unfinished.

Born in Portland on March 31, 1908, the son of Walter B. and Florence M. Parker, he received his preliminary education in Portland, attending Phillips Exeter Academy for a year before entering Bowdoin College. At college he attained an excellent scholastic standing and was a member of the hockey team, graduating in 1930. From there he went to the Harvard Medical School and was graduated in the class of 1934. While an intern at the Massachusetts General Hospital, he married Elizabeth Harding of Boston, who later presented him with two sons, James M. Jr., and Francis H., and a daughter, Elizabeth. After his internship, he went on to a surgical residency at the Boston City Hospital.

Two years after opening his office for the practice of surgery in Portland in 1939, he was appointed Junior Surgeon on the Maine General Hospital Staff. Although ineligible for military service because of a hearing defect, he devoted this period to the difficult wartime duties of a practicing surgeon, spending long hours in the care of private and indigent patients alike. He advanced through the various staffs, being appointed Chief of the Surgical Service in 1956. During this time, he worked diligently in the hospital organization, directing the work of many important committees. His vision enabled him to clearly see the hospital and its staff in relationship to the community as a whole.

He belonged to numerous organizations. In addition to membership in the Cumberland County Medical Society and the Maine Medical Association, he was a member of the New England Surgical Society, and served a term as a member of the Executive Committee of the organization. He was a Fellow of the American College of Surgeons, a past president of the State Chapter of that society, and at the time of his death was a Governor from the State of Maine. He was a Consultant in Surgery at the Webber Hospital in Biddeford and the Memorial Hospital in North Conway, New Hampshire.

Jim was a stimulating teacher. His infectious enthusiasm and untiring interest in surgical problems of all kinds set an example to all who came into contact with him. A prodigious reader, he kept well abreast of the surgical literature. His standards of quality for his own work were of the very highest, and he stimulated his colleagues to produce their best. Having thought through a subject and arrived at a conclusion, he acted decisively. He gave of himself completely, never sparing himself even when he knew his physical reserves were low. Willing and anxious to accept his proper responsibilities, he expected the same of his associates. He was interested in his patients as individuals, and in turn was admired by all who came in contact with him. The surgical teaching program was his favorite project, which he led with humor, skill and untiring enthusiasm, congregating around him a devoted Attending and House Staff.

Despite the harassment of physical disability, he was a man of optimism. A recurring threat of blindness which would have disheartened a lesser man temporarily slowed down his activities on two occasions, only to have him bounce back to full activity with his usual vigor. Over the last year of his life, progressive heart disease proved a frustrating limitation to the activity of a man who could not be satisfied with any restrictions. The decision to face his ill-fated operation for aortic stenosis was made in his usual forthright manner. Disregarding the recognized risks of the procedure, he enthusiastically embarked on the only course he saw open to a return to normal physical activity. The thought of possible disaster never cost him a good night's sleep.

Dr. Parker's contributions to the practice of Medicine will be felt for years to come. His passing leaves the Medical Profession with a vacancy which cannot be filled. His sparkling personality has added immeasurably to the success of our meetings in the past. We, his friends and colleagues of the Cumberland County Medical Society, express our sorrow at his loss, and send expressions of sympathy to his wife and family.

Respectfully submitted,

RICHARD S. HAWKES, M.D.

ISAAC M. WEBBER, M.D.

EMERSON H. DRAKE, M.D.



## COUNTY SOCIETIES

## ANDROSCOGGIN

President, Ross W. Green, M.D., Auburn  
Secretary, Donald L. Anderson, M.D., Lewiston

## AROOSTOOK

President, Robert B. Somerville, M.D., Presque Isle  
Secretary, Clyde I. Swett, M.D., Island Falls

## CUMBERLAND

President, Donald F. Marshall, M.D., Portland  
Secretary, Albert Aranson, M.D., Portland

## FRANKLIN

President, Herbert M. Zikel, M.D., Wilton  
Secretary, Philip B. Chase, M.D., Farmington

## HANCOCK

President, Arthur M. Joost, Jr., M.D., Bucksport  
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President, John B. Curtis, M.D., Milo  
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## WALDO

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President, Harold G. Sears, M.D., Woodland  
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## YORK

President, Robert F. Ficker, M.D., Kennebunkport  
Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## ANDROSCOGGIN

December 17, 1959

The annual meeting of the Androscoggin County Medical Association was held at the Central Maine General Hospital, Lewiston, Maine on Thursday, December 17, 1959.

Seventeen members were present at the meeting which was called to order by the President, Dr. Ross W. Green. A financial report presented by Dr. Otis B. Tibbets and the reports by the Secretary-Treasurer were approved.

The following officers were elected for the coming year:

President, Paul J. B. Fortier, M.D., Lewiston  
Vice-President, Waldo A. Clapp, M.D., Lewiston  
Secretary-Treasurer, Donald L. Anderson, M.D., Lewiston  
Delegates to the Maine Medical Association House of Delegates for three years: Dr. Fortier. Alternate, Joelle C. Hiebert, Jr., M.D., Lewiston  
Councilor for three years, Merrill S. F. Greene, M.D., Lewiston

Dr. Ross Green thanked the members for their cooperation during the past year and turned the meeting over to Dr. Fortier.

The meeting adjourned at 9:20 p.m. following a rising vote of thanks to Dr. Green, the retiring president.

DONALD L. ANDERSON, M.D.  
*Secretary*

## CUMBERLAND

January 21, 1960

Sixty-seven members and guests were present at the annual meeting of the Cumberland County Medical Society on January 21, 1960 at the Eastland Hotel, Portland, Maine. A social hour and dinner preceded the business meeting which was called to order by the President, Dr. Franklin F. Ferguson.

The applications for membership of Elliott Turnbull, M.D., Robert Knowles, M.D. and Kirk Barnes, M.D., were read and approved.

In the absence of Dr. Asali, representative to the M.M.A. Health Insurance Committee, it was announced that a meeting of this committee would be held in Brunswick on Sunday, January 24, to discuss further changes in the Blue Shield, BSB plan. The Councilor for this District, Dr. Carl E. Richards of Sanford, was called upon to make a few remarks about the Forand Bill, following which a representative from the American Medical Association, Mr. George E. McAuliffe, spoke briefly concerning the bill. He urged the physicians of the County Society to make every effort to work against the passage of the bill.

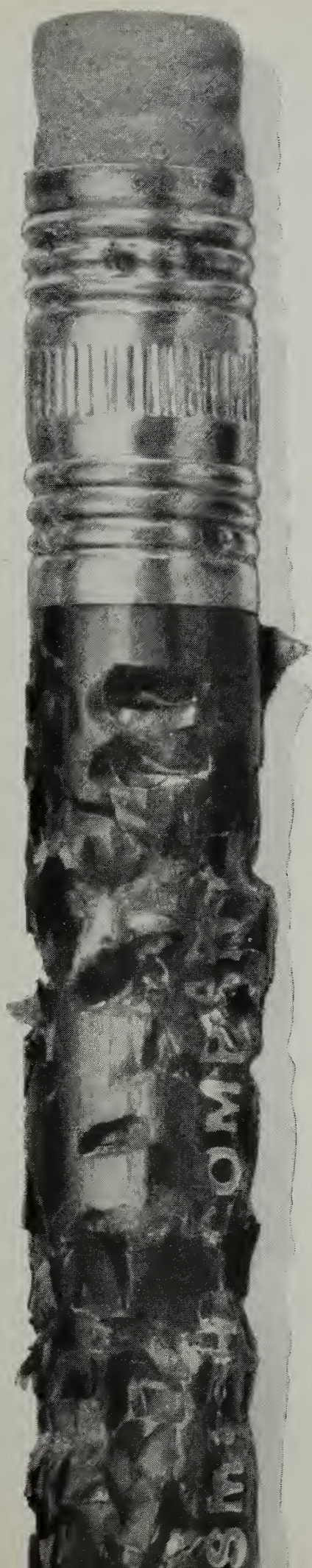
A resolution on the death of Dr. James M. Parker was read by Dr. Emerson Drake, and it was voted to spread the resolution on the records of the Society and to send a copy to Mrs. Parker.

Officers elected for the coming year are:

President, Donald F. Marshall, M.D., Portland  
Vice-President, Ronald A. Bettel, M.D., Brunswick  
Secretary-Treasurer, Albert Aranson, M.D., Portland  
Public Relations Committee: Philip S. Fogg, M.D., Portland, Chairman; George O. Chase, M.D., Portland, C. Philip Lape, M.D., Portland

Delegates to the Maine Medical Association House of Delegates for two years: Robinson L. Bidwell, M.D.,

*Continued on page 72*



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Clinical reports on Dartal: 1. Edisen, C. B., and Samuels, A. S.: A.M.A. Arch. Neurol. & Psychiat. 80:481 (Oct.) 1958.  
2. Ferrand, P. T.: Minnesota Med. 41:853 (Dec.) 1958.  
3. Mathews, F. P.: Am. J. Psychiat. 114:1034 (May) 1958.

SEARLE



Portland, Charles R. Glassmire, M.D., Portland, Robert H. Pawle, M.D., Steep Falls, David K. Lovely, M.D., Portland. Alternates for two years: Louis Bachrach, M.D., Brunswick, George F. Sager, M.D., Portland, John F. Gibbons, M.D., Portland, Arthur R. Clemett, M.D., Portland

A motion was made by Dr. Harvey Ansell, and duly seconded, that the county representative to the M.M.A. Health Insurance Committee be directed to urge strongly that Blue Shield pay the full fee to the patient of any non-participating physician. This motion was discussed in a lively and thorough fashion by various members and was passed.

A motion made by Dr. Clifford Gates that the President appoint a committee to study and evaluate the Forand Bill and return a majority and minority report was duly seconded and was passed.

Dr. Philip Thompson, Jr. made a motion that the President appoint a committee on aging, which was duly seconded and passed.

Robert R. Linton, M.D., Assistant Professor of Surgery, Harvard Medical School and Visiting Surgeon, Massachusetts General Hospital, spoke on the emergency and definitive treatment of bleeding esophageal varices. Dr. Linton's address was illustrated with slides.

The meeting adjourned at 10:40 p.m.

ALBERT ARANSON, M.D.  
*Secretary*

## HANCOCK

January 13, 1960

The January meeting of the Hancock County Medical Society was held at the Hancock House in Ellsworth, Maine. Those members present were: Drs. L. W. Cooper, W. E. Thegen, R. E. Weymouth, M. A. Torrey, C. H. Knickerbocker, H. T. Wilbur, A. M. Joost, B. E. Brownlow, J. H. Crowe, R. E. Russell, P. L. Gray and R. G. Williamson. Guests present were Dr. Charles A. Hannigan of Auburn and Dr. Walter Maury.

A new Constitution and By-Laws was unanimously approved. A proposal to have a joint meeting with Penobscot, Washington and Aroostook County Societies and with the New Brunswick province was enthusiastically received.

A motion was passed that the secretary send letters explaining the medical society's opposition to the Forand Bill to Senators Smith and Muskie and to Representative McIntyre. This motion followed a film and record concerning the Forand Bill and discussion of the Bill conducted by Dr. Hannigan.

RUSSELL G. WILLIAMSON, M.D.  
*Secretary*

## KENNEBEC

January 27, 1960

A regular meeting of the Kennebec County Medical Association was held on January 27, 1960 at the Augusta House, Augusta, Maine. The meeting was called to order by the President, Dr. John F. Reynolds of Waterville, who appointed the following Committees on Resolutions: Samson Fisher, M.D., Chairman, Arthur H. McQuillan, M.D. and L. Armand Guite, M.D. to draw up resolutions on the death of Edmund P. Williams, M.D.; Charles E. Towne, M.D., Chairman, Richard H. Dennis, M.D. and James E. Poulin, M.D. to write resolutions on the death of Moses F. Lubell, M.D.

Joseph R. Crawford, M.D. presented a report of discussion concerning the Forand Bill at a recent meeting of the Androscoggin County Society. It was announced that meetings would be held in Bangor, Lewiston and Portland with representatives

from the American Medical Association to discuss this bill. Thomas T. Anglem, M.D. of Brookline, Massachusetts was the speaker of the evening. His subject was Carcinoma of the Breast, which was illustrated with slides.

ARCH H. MORRELL, M.D.  
*Secretary*

## YORK

January 13, 1960

The annual meeting of the York County Medical Society was held in Kennebunk, Maine on January 13, 1960.

The following slate of officers was elected for the coming year:

President, Robert F. Ficker, M.D., Kennebunkport  
Vice-President, Kenneth E. Leigh, M.D., York  
Secretary-Treasurer, Charles W. Kinghorn, M.D., Kittery  
Censors: Stephen A. Cobb, M.D., Sanford, Paul E. Taylor, M.D., Kittery, Louis C. Lesieur, M.D., Saco  
Delegates to the Maine Medical Association House of Delegates: J. Robert Downing, M.D., Kennebunk, Roger J. P. Robert, M.D., Saco, William E. Dionne, M.D., Springvale. Alternates: James S. Johnston, M.D., York Harbor, Dr. Ficker and Dr. Leigh  
Auditing: Melvin Bacon, M.D., Sanford and Dr. Cobb  
Resolutions: H. Danforth Ross, M.D., Sanford, Marcel D. Ouellette, M.D., Sanford, Leopold A. Viger, M.D., Biddeford

Publicity: Dr. Bacon

It was voted to meet each month with the exception of June, July, August and December.

It was also voted to invite the members of the York County Auxiliary to attend the February meeting in Sanford.

Edward W. Friedman, M.D., of Boston, the speaker of the evening, presented a very interesting paper on Peripheral Vascular Diseases.

There were eighteen members and three guests present.

CHARLES W. KINGHORN, M.D.  
*Secretary*

## New Members

### CUMBERLAND

Kirk K. Barnes, M.D., 11 McKeen Street, Brunswick  
Robert M. Knowles, M.D., 49 Deering Street, Portland  
Elliott D. Turnbull, M.D., 301 Allen Avenue, Portland

## YORK

Ralph S. Belmont, M.D., 6 Washington Street, Sanford

## Deceased

### HANCOCK

Hyman Millstein, M.D., Southwest Harbor, February 4, 1960

### KENNEBEC

Moses F. Lubell, M.D., Thayer Hospital, Waterville, January 13, 1960

## MAINE MEDICAL ASSOCIATION

## 107th Annual Session

The Samoset — Rockland, Maine

June 19, 20, 21, 1960

*Special Notices***Specialty Group Meetings**

- Maine Chapter, American College of Surgeons
- Maine Society of Clinical Hypnosis
- Maine Eye Group
- Maine Society of Anesthesiology
- Maine Society of Obstetrics and Gynecology
- Maine Chapter, American Academy of Pediatrics
- Maine Society of Internal Medicine
- Maine Radiological Society
- Maine Medico-Legal Society
- Maine Chapter, American Academy of General Practice

**Election of President-Elect**

The election of a President-Elect will take place at the General Assembly, Monday, June 20, at 4:00 P.M.

**Election Of Councilors**

Election of Councilors for the following Districts will take place at the Second Meeting of the House of Delegates on Sunday, June 19, at 4:00 P.M.

**First District** — Cumberland and York Counties

**Second District** — Androscoggin, Franklin and Oxford Counties

In accordance with the By-Laws, "Nominations for members of the Council for any District where there is a vacancy shall be made by a caucus of the members of the House of Delegates of that District. Each candidate for Councilor must be a resident of the District for which he is nominated."



## Refresher Course In Clinical Endocrinology to be presented at Central Maine General Hospital, Lewiston

The Central Maine General Hospital in Lewiston, will offer a refresher course in "Clinical Endocrinology" beginning Wednesday, April 13 and continuing each Wednesday afternoon through May 18. As will be noted from the titles of the individual presentations, the course is intended to present a practical application of the latest clinical and diagnostic information in diseases of all of the endocrine glands with the exception of the gonads. Because of its amplitude, diabetes mellitus will also be eliminated from consideration at this time and will be offered as a separate course at another date.

As in the past, the lectures will be presented each Wednesday afternoon from 4:00 to 6:00. The registration fee is \$30.00 payable to the Central Maine General Hospital, and a certification for 12 hours of post-graduate medical education will be given to each physician on completion of the course.

### SPEAKERS AND SUBJECTS

April 13, 1960

ALEXANDER S. ANDERSON, M.D.  
"Tests of Endocrine Function"

GEORGIANA M. JAGIELLO, M.D.  
"Hyperthyroidism"

May 11, 1960

GEORGIANA M. JAGIELLO, M.D.  
"Diseases of the Adrenal Cortex"

April 20, 1960

CHARLES HOLLENBERG, M.D.  
"Growth Hormone"  
"Aldosterone"  
"Pheochromocytoma"

May 18, 1960

CHARLES HOLLENBERG, M.D.  
"Diabetes Insipidus"  
"Fat Metabolism"

April 27, 1960

W. EUGENE MAYBERRY, M.D.  
"Diseases of the Parathyroids"  
"Myxedema and Thyroiditis"

ALEXANDER S. ANDERSON, M.D.  
"Goiter, Thyroid Nodules and Thyroid Cancer"

May 4, 1960

W. EUGENE MAYBERRY, M.D.  
"Diseases of the Anterior Pituitary"

All of these speakers are Assistants in Medicine at Tufts Medical School and are associated with the New England Center Hospital Medical Service.

### FUTURE REFRESHER COURSES

Now in its planning phase, the Central Maine General Hospital in the Fall will offer another six week course in the clinical interpretation and application of current pharmacology and pharmacologic physiology, presented by leading pharmacologists and clinicians from Boston, New York and Philadelphia.

# Announcements

## Chicago Committee On Trauma Of The American College Of Surgeons

The Fourth Post-Graduate Course on Fractures and Other Trauma, sponsored by the Chicago Committee on Trauma of the American College of Surgeons, will be held April 27 through April 30, 1960, at the John B. Murphy Memorial Auditorium, 50 East Erie Street, Chicago.

The Course for 1960 is dedicated to the memory of Dr. William R. Cubbins. An outstanding leader in fractures and other trauma, Dr. Cubbins was associated for many years with the Northwestern University School of Medicine, the Stritch School of Medicine of Loyola University, and Cook County Hospital.

Teachers prominent in the field of trauma from the five Chicago medical schools, and chiefs of services from leading Chicago hospitals will lead discussions on all phases of trauma: injuries to the eye, face, neck, chest, abdomen and extremities; repair of bone and cartilage in trauma; aseptic necrosis; urological complications of fractures; intramedullary fixation of fractures; bone grafts; and other related subjects.

Registration fee will be \$50. Residents will be admitted free upon presentation of a note of identification from chief of service.

Dr. Sam W. Banks, Chairman of the Chicago Committee on Trauma, is Director of the Course. Inquiries should be addressed to Dr. John J. Fahey, who is chairman of the Committee on the Postgraduate Course on Fractures and Other Trauma.

## Pineland Hospital And Training Center Pownal — Maine Carl Hedin General Hospital — Red Room

1960

March 3	Lecture — Hormonal Aspects in Mental Deficiency	11:00 A.M.
March 10	Lecture — Leucemia II	11:00 A.M.
March 17	Lecture — Aminoacid Pool and Protein Synthesis in Man	11:00 A.M.
March 24	Lecture — Infant Mortality in Maine	11:00 A.M.
March 31	Lecture — Modern Diagnostic Procedures in Neurology	11:00 A.M.
March 10	Clinicopathological Conference	10:00 A.M.

## Phi Lambda Kappa Scientific Meeting March 20 Through 27, 1960

The Eighth Annual Interim Scientific Meeting of Phi Lambda Kappa, national medical fraternity, will be held at the Deauville Hotel, Miami Beach, Florida, March 20 to 27, 1960.

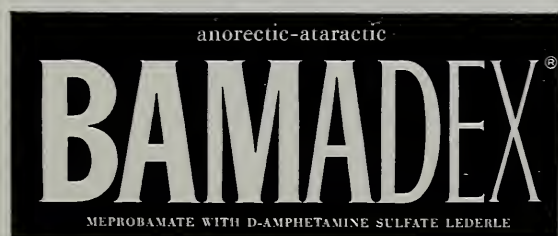
The five-day program, starting Monday, March 21 will be for the benefit of the general practitioner and will feature papers and symposiums by specialists in their fields. All members of the medical and dental professions are welcome.

For registration and information, write Dr. Samuel Lemel, 1621 Euclid Avenue, Cleveland 15, Ohio.

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### Fifty Year Club Of The A.M.A.

Dr. J. H. McCurry of Cash, Arkansas advises that he has the approval of the American Medical Association to organize a Fifty Year Club within the A.M.A. Dr. McCurry is anxious to hear from physicians who have been in practice fifty years or more who desire to become members of this club, giving their name and a complete address.

The first meeting is to be held in Washington, D. C. at the Clinical Meeting of the A.M.A. November 29 to December 2, 1960.

### West Virginia Academy Of Ophthalmology And Otolaryngology — Annual Meeting

The West Virginia Academy of Ophthalmology and Otolaryngology will hold its annual meeting at the Greenbrier Hotel, White Sulphur Springs, West Virginia from April 10 through 12, 1960.

Among the guest speakers will be:

Harold G. Scheie, M.D., Professor of Ophthalmology, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania; Charles E. Iliff, M.D., Associate Professor of Ophthalmology, John Hopkins University School of Medicine, Baltimore, Maryland; Oscar T. Becker, M.D., Clinical Associate Professor of Otolaryngology, University of Illinois, Chicago, Illinois.

For any additional information please contact the Secretary, Dr. Albert C. Esposito, First Huntington National Bank Building, Huntington 1, West Virginia.

### American Board Of Obstetrics And Gynecology

The next scheduled examinations (Part II), oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from April 11 through 16, 1960. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I Examinations will be notified of their eligibility for the Part II Examinations as soon as possible.

The deadline date for the receipt of New and Reopened Applications for the 1961 examinations is August the first, 1960. Candidates are urged to submit their applications as soon as possible before that time to: Robert L. Faulkner, M.D., Secretary, 2105 Adelbert Road, Cleveland 6, Ohio.

### Department Of Health And Welfare Division Of Maternal And Child Health Including Services For Crippled Children

#### Cardiac Clinics

Portland — Maine Medical Center

9:00 a.m.: Every Friday (Holidays Excepted)

Bangor — Eastern Maine General Hospital

9:00 a.m.: Jan. 8, 29, Feb. 12, 26, Mar. 11, 25

#### Adolescent Clinics

Portland — Maine Medical Center

1:00 p.m.: Jan. 27, Feb. 24, Mar. 23

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3G-J-358



# The Journal of the Maine Medical Association

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Brunswick, Maine, March 1960

Number 3

## The Gram-Negative Bacteremia Shock Syndrome

CHARLES A. HANNIGAN, M.D., PAUL J. LAFLAMME, M.D.

DANIEL R. SHIELDS, M.D.\*

The purpose of this paper is to emphasize the role of bacteremia in producing shock and to outline management of this medical emergency. We shall point out the ease with which gram negative bacteremia as a common cause of shock may be overlooked. We shall also point out the importance of early treatment of gram negative bacteremia to prevent shock and its sequelae. We shall do this by case presentation and discussion.

In 1958 Weil and Spink wrote that bacteremia had become the commonest single cause of shock, other than shock due to myocardial infarction, then being treated on the medical services of the Minnesota University Hospitals. Our experiences were so much at variance with theirs that we were forced to conclude that medical practice was different in Maine, or we were overlooking many cases of shock due to gram negative bacteremia.

The past 20 months experience have shown that we had been overlooking this common cause of shock and have allowed us to select ten illustrative cases from our combined private practices. Also, an increasingly higher index of suspicion has enabled others of our colleagues to diagnose this syndrome. An increasing familiarity, however, has served mainly to increase our respect for this syndrome and to increase the vigor and promptness of our treatment.

Shock associated with gram *positive* bacteremia is

less likely to be overlooked, since the dysfunction due to the source of the bacteremia is usually more obvious as in abscess, cellulitis, endocarditis, or pneumonia. Also, gram positive bacteremias are less likely to be associated with shock, but once established are just as life threatening. The shock associated with gram negative bacteremia is related to the liberation of endotoxins from the bacteria. The purified endotoxins from various species of gram negative bacteria injected intravenously into dogs cause similar characteristic reactions. These include forceful bowel movements, hyperpnea, pruritis, agitation, chills, vomiting, diarrhea, and progressive lowering of blood pressure. Often the vomiting and diarrhea are bloody. In five hours there is coma. In eighteen hours there is death.

The rapid development of shock due to gram negative bacteremia in a hospitalized patient on antibiotics; the subtle disguises of coronary occlusion, pulmonary embolism, or gastrointestinal hemorrhage this masquerader can so easily assume; and the suddenness with which it can level its intended victim while his physicians are pondering a succession of catastrophic clinical events, have led us to conclude that enlightened suspicion is the prime necessity for the control of this type of shock. We must be alert to its clinical disguises, as well as to the clinical settings in which it most often appears. Although we cannot overemphasize the importance of recognition and treatment of the shock syndrome, we must realize that prompt and adequate antibiotic treatment of the gram negative bacteremia before shock supervenes is of prime importance.

\*From the Departments of Medicine and Surgery, Central Maine General Hospital and St. Mary's General Hospital, Lewiston, Maine.



The following case reports have been chosen to illustrate the above statements and to point out principles of clinical management.

Case No. 1 — This 69-year-old white female entered the hospital at 11 a.m. on September 7, 1959, with right renal colic which had developed nine hours previously. She was afebrile on admission; there was right upper quadrant and right flank tenderness. The pain, for which she had received  $\frac{1}{4}$  grain of morphine at home, had subsided.

The urine showed 3-6 WBC and 25-35 RBC per high power field. White blood count was 20,000 with a shift to the left. Blood urea nitrogen was 18 mgs.%. X-rays of the abdomen showed a calculus in the right renal pelvis.

Twelve hours after admission she developed chills and fever and increased flank tenderness. Blood and urine cultures were taken and one million units of penicillin and  $\frac{1}{2}$  gram of streptomycin intramuscularly were given. During the night and early morning she became confused. She complained of generalized aches for which she was given morphine, grains  $\frac{1}{8}$ , every three hours.

The morning following admission she had little flank tenderness and was disoriented. Despite a full radial pulse of 72 and a warm, flushed, dry skin her blood pressure was 60/0. The skin over the abdomen was mottled. Respirations were Cheyne-Stokes in nature; pupils were pinpoint. An electrocardiogram showed a normal tracing with a rate of 86 and frequent premature ventricular contractions.

At first it was felt that this clinical picture was due to morphine overdosage and small amounts of Nalline® were given with no improvement. There was no blood pressure response to intramuscular Aramine®. Gram negative bacteremia was then strongly suspected as the most likely cause of shock largely because of the clinical setting; that is, shock developing in a patient with a known kidney infection. Accordingly, an intravenous infusion of Aramine was started with control of the blood pressure in the 100-120 systolic range. One-half gram of Chloromycetin® was then given intramuscularly every six hours. The Penicillin and Streptomycin were continued. The blood culture taken before the start of antibiotics showed growth of intermediate coliform bacteria sensitive to Streptomycin and Chloromycetin, but not Penicillin. The infusion of Aramine was continued for 48 hours at which time the blood pressure remained stable. The kidney stone was removed on the eighth hospital day and the patient made an uneventful recovery.

Case No. 2 — This 75-year-old white male entered the hospital on January 13, 1960, in acute urinary retention. Rectal examination revealed a large carcinoma of the prostate. He was put on Foley catheter drainage. The urine showed 2-4 WBC and over 100 RBC per high power field. BUN was 24 mgs.%. Red blood count was 4.1 million per cubic millimeter, white blood

count 5,500 per cubic millimeter, and hemoglobin 13.1 gms. The patient had been on digitalis and a low salt diet for six years and a pre-operative electrocardiogram showed ST segment and T wave changes compatible with digitalis effect.

Mandelamine®, 1 gram, four times a day was started. On January 15, 1960, a transurethral resection of the prostate with bilateral orchidectomy was done. He was placed on Declomycin®, 150 mgs. intramuscularly, four times a day. His post-operative course was uneventful until the third post-operative day. On this day the Foley catheter was removed and the patient voided satisfactorily. At 4:00 p.m. his temperature was recorded at 99 degrees. At 5:00 p.m. he was observed sitting comfortably in a chair. At 5:45 p.m. he went to the bathroom and returned to his bed. At 6:00 p.m. he vomited a large amount of undigested food and he had two large bloody bowel movements in bed. At this time his pulse and blood pressure were unobtainable. His apical rate was over 160. His temperature was 105 degrees rectally. The extremities were warm and dry. He was unresponsive and death appeared imminent.

A blood culture was promptly obtained and intravenous Levophed® and Chloromycetin were started. The hematocrit was 34% and the white count 45,600. 500 cc. of blood was given and he was started on 500 mgs. of Chloromycetin intramuscularly every six hours. He rapidly became afebrile. On the fourth post-operative day he was still confused and the blood pressure was maintained with Aramine. There was a steady improvement in his general condition; however, the blood pressure remained in the level of 70 systolic when Aramine was discontinued. On the seventh post-operative day and four days after the shock episode, intravenous and intramuscular Cortisone was started because of assumed adrenal insufficiency as indicated by continuing hypotension and a relatively high eosinophil count of 200 per cubic millimeter. On this regimen there was continued improvement. The electrocardiogram that was taken the day after the development of shock showed very little in the way of changes from the pre-operative electrocardiogram.

These two cases emphasize several important aspects of the shock syndrome due to gram negative bacteremia. Case No. 1 is perhaps a more typical example, with a typical progression of the disease. It was reasonable to assume that in the presence of a kidney stone she did have a pyelonephritis complicated by a gram negative bacteremia and shock. The appropriate antibiotic was not given initially and she did develop true shock which required a vasopressor agent and vigorous treatment with Chloromycetin. Case No. 2 is included as an example of the catastrophic swiftness with which gram negative bacteremia can proceed into a picture of collapse and coma and, in this particular patient, accompanied by vomiting and bloody diarrhea. Prompt and adequate treatment stimulated by a marked aware-

ness of this problem undoubtedly saved this patient's life. This patient also demonstrated, during recovery, a relative adrenal insufficiency. Continuing hypotension and a high eosinophil count after the infection has been controlled strongly suggests adrenal insufficiency and the need for Cortisone replacement therapy as in this patient. In retrospect, it appears that Cortisone replacement should have been instituted more promptly.

In the following table we have summarized the principle clinical findings in the ten patients we are presenting with gram negative bacteremia. In six of these patients the bacteremia had progressed to a state of shock. In the four others we feel that prompt and adequate antibiotic treatment averted the shock syndrome and its associated morbidity and mortality. Because the time interval between the onset of bacteremia and clinical shock can be as fleeting as it was in Case No. 2, we feel that the gram negative bacteremia, once reasonably suspected by the different manifestations of the bacteremia in the proper clinical setting should be vigorously treated with appropriate antibiotic and supportive measures. Blood cultures should always be taken before antibiotic therapy is instituted.

If one accepts the dictum of vigorously treating gram negative bacteremia once reasonably established one must be completely familiar with the early manifestations of gram negative bacteremia. From this chart it becomes apparent that in the clinical setting of gastrointestinal infection or surgery, genitourinary infection, instrumentation, or surgery, one must watch carefully for the appearance of chills, fever, or confusion which are early manifestations of bacteremia. Not only must physicians be on the alert for these symptoms but also, and perhaps more importantly, the nursing personnel must be alert inasmuch as they are constantly with the patient. Eight of these patients had or were observed to have chills. It is quite likely that the others passed through this stage without having been observed. All ten had fever. All ten had confusion and disorientation. Cases 7, 8, 9, and 10 are instances in which shock of gram negative bacteremia was averted by early administration of large doses of proper antibiotics.

Once the shock was established the hypotension and persisting confusion were outstanding. Before shock became established in the patients with bacteremia the skin was invariably warm and dry, the pulses were full, yet all were confused and disoriented. In early shock, the skin is hot and dry. Patient No. 1 had a full-bounding pulse with a slow rate despite a blood pressure of 60/0. One other patient had a hot, dry skin but an imperceptible pulse and a rapid rate. As shock progressed the skin invariably became cold, gray and clammy and the pulses rapid, weak and thready.

Of the patients in shock, four showed rapid respirations and two showed definite Cheyne-Stokes respirations. The amazing variety of clinical signs and symptoms apparent even in this small group of patients makes it readily apparent why this diagnosis has been so easily

missed. Of the patients in shock, two cases were felt at first to be due to GI bleeding; four, due to coronary occlusion; four, due to pulmonary embolism; three, due to mesenteric artery thrombosis; and two, due to pneumonia. In fact, Case No. 3 was given the appropriate antibiotic, Chloromycetin, because of a suspected, but not confirmed, aspiration pneumonitis. Vomiting was noted in five patients, abdominal pain in three, melena in two and diarrhea in one. Chest pain was noted in three of these patients resulting in a differential diagnosis of coronary occlusion or pulmonary embolism. In addition, all of the patients with shock had electrocardiograms and only one electrocardiogram was completely normal. The abnormalities varied from multiple ventricular extrasystoles to such severe ST segment and T wave changes that diagnoses of acute myocardial infarctions were considered to have been established. However, serial electrocardiograms did not confirm these impressions.

The white blood counts varied from 16,000 to 45,000 and certainly early marked leukocytosis would rule against mesenteric artery occlusion, myocardial infarction, or pulmonary embolism. The NPN or BUN tests which were done during the shock state were elevated. This, coupled with the development of a true lower nephron nephrosis in Case No. 4 certainly emphasizes the need for prompt establishment of circulatory dynamics with adequate fluid, vasopressors and blood where indicated.

Enlightened suspicion probably is the most important factor in diagnosis and management of these patients. In line with this, the clinical settings in which the difficulties arose were quite important. Eight of the ten patients had had recent genitourinary surgery or instrumentation. One had had recent gastrointestinal surgery. Two had had recent kidney infections. Five of these patients had been receiving sulfa drugs, one Declomycin, one Tetracycline, and three had been receiving no antibiotic at the time the bacteremia developed. This demonstrates that although the patient is on antibiotic treatment gram negative bacteremia can develop.

The treatment of the bacteremia before shock supervenes is massive appropriate antibiotic therapy. In this group we used Chloromycetin, 500 mgs. every six hours parenterally, with excellent results. One must also gauge the kind and amount of antibiotic to give in relationship to the antibiotics the patient has been on recently. For instance, Case No. 2 was given large amounts of Chloromycetin in spite of the fact that he was on Declomycin at the time he developed bacteremia shock. It is possible that larger amounts of Declomycin would have controlled his bacteremia; but we were unwilling to assume that risk. It has also been interesting to note that lack of sensitivity to antibiotics *in vitro* as in Case No. 3 does not mean that they will be ineffective when used in the patient. Other authors have demonstrated good results with large doses of the other



## TEN PATIENTS WITH GRAM-NEGATIVE BACTEREMIA WITH AND WITHOUT SHOCK

	1	2	3	4	5	6	7	8	9	10
Organism	E. Coli	B. Proteus	A. Aero- genes	E. Coli	E. Coli	Not deter- mined	B. Proteus	A. Aero- genes	E. Coli	A. Aero- genes
Shock	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Age	69	75	74	66	57	35	68	70	57	79
Sex	F	M	M	M	F	M	M	M	M	M
Chills	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Temperature	102°	104.6°	102°	100-104°	101°	98-106°	103°	102°	103°	106°
Mental Status	Confused, disoriented	Confused lethargic	Confused lethargic	Confused	Confused	Confused	Confused, disoriented	Confused, disoriented	Confused	Confused disoriented
Interval be- tween onset of Bacteremia and Shock	8 to 16 hours	Less than 1 hour	Less than 2 hours	8 to 16 hours	8 to 16 hours	8 to 16 hours	—	—	—	—
Blood Pressure	60/0	Unobtain- able	Unobtain- able	80/40	Unobtain- able	Unobtain- able	Normal	Normal	Normal	Normal
Skin	Warm, dry, mottled	Hot and dry	Cold and clammy	Cold and clammy	Cold and clammy	Cold and clammy	Hot and dry	Hot and dry	Hot and dry	Hot and dry
Pulse	72, Full	Greater than 150. Not per- ceptible at ra- dial artery	170 and not felt at radial artery	Thready and fast	Thready and fast	96 and not felt at radial artery	Slightly elevated and strong	Slightly elevated; full and strong	Elevated, full, strong	Elevated, full, strong
Respirations	Cheyne- Stokes	Rapid	Labored	Rapid	Rapid	Cheyne- Stokes	Normal	Normal	Normal	Normal
Chest Pain	No	No	Yes	No	Yes	Yes	No	No	No	No
Gastrointes- tinal Symp- toms	Vomiting, abdominal pain	Vomiting and bloody diarrhea	Vomiting and diarrhea	Abdominal pain, Vomiting Melena	None	Vomiting	Abdominal pain	None	None	None
Electro- cardiogram	Normal except for V.P.C.'s	No changes from prev- ious one	T-wave changes consistent with myo- cardial infarction	Minor T-wave changes	ST Depres- sion with inverted T's, ?Sub- endocardial necrosis	Normal	Normal	Normal	None	Normal
NPN or BUN	Normal	Slightly elevated	Moderately elevated	NPN 370 Lower nephron nephrosis	NPN 157	—	Normal	Normal	—	Normal
White Blood Count	20,000	45,000	20,000	24,000	16,000	—	—	24,000	—	26,000
Urine Output	Good	Good	Scanty	Low	Low	Scanty	Good	Good	Good	Good
Differential Diagnosis	Morphine over-dosage	Coronary occlusion, GI hemorrhage, Mesenteric artery throm- bosis, Pul- monary em- bolism	Coronary occlusion, Aspiration Pneumonitis, Pulmonary embolism, Mesenteric artery throm- bosis	GI bleeding, Mesenteric artery throm- bosis	Coronary occlusion, Pulmonary embolism, Pneumonia	Coronary occlusion Pulmonary embolism	—	—	—	—
Clinical Setting	Kidney Stone	3rd day G-U Surgery post- op T.U.R. and orchidec- tomy for Ca. of Prostate	G-U Surgery	G-U Surgery Rt. Nephrec- tomy	Pyelone- phritis Diabetes	Colectomy, 19th day post-op	G-U Surgery Ca. of Pro- state	G-U Surgery B.P.H.	G-U Surgery Bladder Tumor	G-U Surgery Ca. of Pro- state
Concurrent Antibiotics	None	Declomycin	None	Sulfa	None	Gantrisin®	Tetracycline	Gantrisin	Elkosin®	Elkosin
Indwelling Catheter	None	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Interval be- tween onset of shock and adequate treatment	6 to 12 hours	Less than 1 hour	3 hours	immediate	8 days	6 to 12 hours	—	—	—	—
Antibiotic Treatment	Penicillin Chloromy- cetin Streptomycin	Chloromy- cetin	Chloromy- cetin	Chloromy- cetin	Chloromy- cetin	Achromycin® Chloromy- cetin	Chloromy- cetin	Chloromy- cetin	Chloromy- cetin	Streptomy- cin Chloromy- cetin
Oxygen	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No
Blood	No	Yes	No	Yes	Yes	No	No	No	No	No
Pressor Agents	Aramine	Levophed, Aramine	Levophed and Aramine	Levophed	Levophed	Levophed	No	No	No	No
Fluids Intra- venously	As indi- cated	As indi- cated	As indi- cated	As indi- cated	As indi- cated	As indi- cated	As indi- cated	As indi- cated	As indi- cated	As indi- cated
Steroids	—	Sol. cortef IV and IM	No	No	Sol. cortef	No	No	No	No	No
Outcome	Good	Good	Good	Good	Died. B Coli Endocarditis. Multiple abscess. Pul. Edema	Died. Autopsy large abscess in pelvis, no cul- tures. DX: Sep- ticemia	Excellent	Excellent	Excellent	Excellent

Tetracycline drugs with or without Streptomycin. Polymyxin B is usually the only drug effective against pseudomonas.

Once shock has been established the treatment must be directed towards the re-establishment of the proper vascular tone as well as to the establishment of adequate antibiotic treatment. Levophed has been of value in maintaining the blood pressure; however, at the present time we feel that Aramine, which can be given intramuscularly as well as intravenously is easier to control and less danger of slough. Maintenance of fluid and electrolytes is important generally and particularly for the maintenance of adequate urine output. Oxygen may be helpful. Whole blood certainly should be given where there has been any evidence of bleeding. Cortisone intravenously or otherwise should be given when there is evidence of adrenal insufficiency as manifested by initial unresponsiveness to pressor agents and in the convalescent phase by a continuing hypotension accompanied by a relatively high eosinophil count. We feel that blood pressure not adequately maintained except by pressor agents within 24 to 48 hours after the infection has been controlled probably indicates the need for Cortisone, as in Case No. 2. Of the six patients in shock, two died, giving a mortality rate of 33-1/3%. The outcome was wholly favorable in the group treated before shock supervened. From this small series the wisdom of adequately treating gram negative bacteremia before shock supervenes becomes apparent.

#### SUMMARY

Gram negative bacteremia induced shock has been discussed. Ten related cases have been presented.

The ease with which shock due to gram negative bacteremia can be overlooked has been emphasized. It is estimated that at the present time this is the most commonly missed cause of shock.

Infections, instrumentation, and surgery of the gastro-

intestinal and genitourinary systems often result in gram negative bacteremia with shock as a complication.

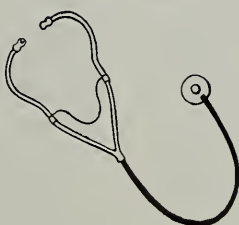
Enlightened suspicion arising from a knowledge of its varied clinical disguises and clinical settings should result in unmasking and controlling this disastrous syndrome.

The high morbidity and mortality of the shock syndrome once established indicates that early and appropriate antibiotic treatment of gram negative bacteremia will be most fruitful in preventing the shock syndrome.

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# Adrenal Steroids In Dermatology\*

MARGARET HOPKINS HANNIGAN, M.D.\*\*

The use of the adrenal steroids in the treatment of skin diseases is one of the greatest advances of the present century. Except for the antibiotics, no group of therapeutic agents has so changed the prognosis and course of many types of disabling and even fatal dermatoses. The widespread acceptance of their efficacy in the management of these conditions is demonstrated by the reported fact that over ten million tubes of hydrocortisone preparations were dispensed over the counters of the nation's drugstores in the year 1958.

The life-saving qualities of these drugs in pemphigus, acute disseminated lupus erythematosus, and some of the drug eruptions have been extensively reported. There are other chronic and disabling skin conditions in which the use of these agents may enable patients to return to work and to maintain a normal existence. Certain of the acute self-limited eruptions of the skin can be contained with a minimum of discomfort in selected patients, resulting in their ability to continue working.

The steroids themselves are not curative, but act as anti-inflammatory agents suppressing the edema, vesiculation, and erythema which contribute to the acute discomfort of skin disorders. For this reason, there is little place for their use in the chronic, non-crippling conditions such as the usual psoriasis, neurodermatitis, acne vulgaris, or non specific pruritus except as topical applications. As soon as the drug is discontinued in any chronic disease, the symptoms recur in most cases with greater severity than before steroid therapy. When the decision is made to initiate steroid therapy, the amount given must be sufficient to suppress the inflammation and the patient must be maintained and carefully followed on an adequate amount.

Proper diagnosis is necessary to determine whether or not the disease is self-limited or chronic. It is extremely difficult to wean a patient away from steroid therapy when he has had a good result with its use. It is best, therefore, to reserve its use for the potentially fatal, the acute self-limited, and certain acute exacerbations of chronic diseases.

In order to guide the practitioner in the use of these agents, an outline has been prepared in Table I which lists the conditions in which systemic corticosteroids have been used and evaluated.

In pemphigus vulgaris, the highest dosages of steroids have been given over the longest periods of time, with

a resultant drop in mortality from ninety per cent to thirty-three per cent. Many of the complications of prolonged, massive steroid therapy have been demonstrated in the treatment of these patients. However, with early diagnosis on the basis of clinical appearance of bullae on the oral mucous membranes and on normal-appearing skin, along with biopsy confirmation by demonstration of intraepidermal bullae and loss of the prickle-cell layer; therapy may be instituted early and, when given in sufficient amounts, will usually be life-saving. Awareness of the complications and supportive treatment with potassium chloride, antacids, and broad-spectrum antibiotics when indicated, helps to reduce the complications due to steroid therapy.

Acute disseminated lupus erythematosus is another example of a disease which was rapidly fatal prior to the introduction of steroid therapy. The presence of arthritis, skin lesions over the face, renal disease, fever, pleural effusion or combinations of these signs suggests the diagnosis of systemic lupus erythematosus, which may be confirmed by finding L.E. cells in the blood. Bed rest, salicylates, and anti-malarials can control the less severe cases. However, an acutely ill patient with renal, hematological, or neurological involvement warrants the early use of steroid therapy in adequate amounts. The dose of steroids administered should be determined by the temperature response within 24 to 48 hours in the acute cases. High doses should be continued until the laboratory findings show improvement as well. Advanced renal disease may show no signs of improvement despite prolonged treatment.

Dubois reported his results in 29 cases treated with triamcinolone over varying periods of time during eleven months. He did not use potassium chloride, routine sodium restriction, or prophylactic ulcer diets. In addition to the expected beneficial results reported, he noticed progressive weight loss in many of his patients and muscle weakness in six which necessitated changing to another type of steroid. Cushingoid facies developed in more of the female patients than was reported in a series where the older type steroids had been used. None of the seven men in the series showed this side effect.

Although response to steroid therapy in the exfoliative erythrodermas varies with the cause of the disease, it is always worthy of trial. In many cases of allergic origin, the relief is dramatic and may become permanent if the dosages are adequate and continued over sufficient periods of time for natural remissions to occur. In other types of exfoliative dermatitis, prolonged administration of steroids may be necessary to

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Erythema Multiforme Bullosum



Psoriatic Erythroderma



Drug Eruption



Pemphigus Vulgaris



Urticaria



Drug Eruption



Pemphigus Vulgaris





SEVERAL OF THE PHOTOGRAPHS APPEARING WITH THIS ARTICLE BY DR. MARGARET HANNIGAN WERE TAKEN IN THE DERMATOLOGY CLINIC AT THE BOSTON CITY HOSPITAL AND IN THE OFFICE OF DR. JOHN G. DOWNING OF BOSTON, MASSACHUSETTS AND REPRODUCED WITH HIS PERMISSION.

THE USE OF THESE COLOR ILLUSTRATIONS WAS MADE POSSIBLE BY A GRANT-IN-AID FROM THE MERCK SHARP & DOHME POSTGRADUATE PROGRAM.





suppress the inflammation and permit the patient some return to normal living. Triamcinolone seems to be the drug of choice in the treatment of psoriatic erythrodermas and has brought about complete remission in one of our patients.

Severe erythema multiforme always justifies the use of steroid therapy which is the only effective means of treatment. Acute urticaria, particularly when there is involvement of the oral mucous membranes is another indication for prompt use of steroids. The prolonged disabling effects of urticaria resulting from penicillin sensitivity can be reduced to a minimum of discomfort permitting the patient to go about his daily routine.

Severe contact dermatitis, particularly well illustrated by poison ivy eruptions as well as those due to topical medications, responds quickly to systemic steroid treatment. A very short course of treatment may suppress erythema, edema, vesiculation, and itching. The use of this therapy should be reserved for those eruptions of a very severe and extensive nature, however, since most contact dermatitis is self-limited and responds well to local measures as long as the contactant has been eliminated.

Atopic dermatitis is a chronic, annoying, and often disabling disease which Rothman must have had in mind when he said, "Some diseases do not take life, they just ruin it." These patients above all others should be deterred from steroid therapy as they are difficult to persuade to stop the steroids, once they have experienced the relief that a course given for an acute exacerbation affords. Education of the patient in the effects of allergens, tension, infection, and irritants will help him to avoid those acute, severe exacerbations of the disease which may necessitate steroid therapy.

The group of diseases listed as those in which steroid therapy is sometimes indicated include many conditions in which some investigators have reported beneficial responses to treatment with these agents and others have had poor or equivocal results. It is generally agreed that earlier empirical measures for the relief of chronic urticaria, seborrheic dermatitis, and ordinary psoriasis offer at least as good a chance of recovery or symptomatic relief. Only a very poor psychologic adjustment to alopecia areata is sufficient indication for steroid therapy. Eye involvement and acute pulmonary dysfunction justify the use of steroids in sarcoidosis.

The clinician who institutes steroid therapy systemically must be well aware of the contraindications to its use as listed in Table 2. They are called relative contraindications, because in the presence of a potentially fatal disease, the steroids must be used despite them. The patient should be followed closely in the hospital. All patients on this type of medication should have their blood pressures, weights, and urinalyses for sugar checked weekly, and they and their families should be instructed to report any abnormalities in behaviour and any bleeding from the gastro-intestinal tract.

TABLE 1

Conditions in which systemic corticosteroids are indicated	
Always	1. Pemphigus vulgaris, erythematosus, or foliaceous 2. Acute disseminated lupus erythematosus 3. Exfoliative erythroderma
Frequently	1. Erythema multiforme 2. Acute urticaria 3. Contact dermatitis — severe 4. Atopic dermatitis — acute episodes
Sometimes	1. Chronic urticaria 2. Seborrheic dermatitis 3. Pruritis of unknown origin 4. Generalized psoriasis 5. Alopecia areata universalis 6. Sarcoidosis 7. Herpes Zoster — Post-herpetic neuralgia 8. Porphyria cutanea tarda 9. Cutaneous lesions of lymphatic leukemia, lymphoma, and mycosis fungoides
Seldom or Never	1. Dermatitis herpetiformis 2. Lichen planus 3. Pityriasis rosea 4. Pyodermas (as impetigo) 5. Acne vulgaris 6. Infestations 7. Kaposi's sarcoma 8. Fixed drug eruptions 9. Skin cancer 10. Herpes simplex

TABLE 2

Relative contraindications to steroid therapy	
1. Diabetes	
2. Hypertension	
3. Gastric or duodenal ulcers	
4. Congestive failure	
5. Thrombotic disease	
6. Psychoses	
7. Infectious diseases, especially tuberculosis and virus infections.	

In spite of the claims that the newer steroids produce no sodium retention, and few other side effects, we instruct our patients to eat a salt-poor diet which we supplement with potassium chloride in the dose of two or three grams daily. Several patients in our practice on triamcinolone for chronic disabling conditions have developed Cushionoid facies, muscle weakness to a mild degree, and one has had an episode of gastrointestinal bleeding, although he gave no prior history of an ulcer. Another patient manifested for the first time diabetes which still requires insulin for its control despite cessation of steroid therapy.

The management of patients on steroid therapy consists of giving adequate amounts to control the symptoms immediately, then maintaining them on the smallest amounts which will lead to a favorable clinical response. In general 40 to 60 milligrams of



prednisone or 32 to 48 milligrams of triamcinolone, gives an adequate initial dose to completely suppress symptoms in most acute eczematous processes with a maintenance dose of 15 to 12 milligrams being reached as soon as possible. The reduction should be gradual to prevent the rebound phenomenon so often observed, after rapidly decreasing or stopping the steroids before the patient is free of his disease. In the case of fatal diseases such as pemphigus, the patient may require doses equivalent to 300 to 500 milligrams of cortisone to control the diseases. In these patients, the added complications of osteoporosis, particularly in immobilized cases, and acute adrenal insufficiency under stress must be anticipated. Any patient who has received systemic steroid therapy should be instructed to report this in the event of a major operation or severe infection within the following year; and in the event of symptoms of adrenal insufficiency, steroids should be reinstituted.

The dermatologist has the opportunity to use the steroids topically, as well as systemically, with remarkable effectiveness in acute inflammatory and pruritic dermatoses. The choice of a vehicle for the medication is just as important as ever in successful treatment. The old instructions to lubricate the skin with oil or ointment when it is dry and to dry it with a lotion or cream when moist still apply. Often the failure of one of the topical steroids to clear an eruption lies in the choice of the wrong base rather than the use of the wrong medication. It might be mentioned at this point that we are seeing increasing evidence of sensitivity to neomycin because its widespread use combined with hydrocortisone results in exposure of a large number of patients to this antibiotic. The concentration of antibiotic is insufficient in most cases to control adequately a pyoderma, and the hydrocortisone itself is ineffective against infections and many times contraindicated. For these reasons, I see no value in combining these medications. Antibiotic ointment or lotion should be used alone to combat infection. Later topical steroids may be started to control inflammation and itching.

There has been no evidence of marked absorption of any of the topical steroids except for the fluorohydrocortisone compounds which have been reported to cause sodium retention when applied to extensive areas of the body. Although quantitatively these compounds are about 13 times as effective as hydrocortisone, the adverse effects of absorption on patients with congestive failure, hypertension and other cardiac and renal diseases probably outweigh their beneficial effects when other effective compounds such as hydrocortisone acetate and triamcinolone acetonide are available.

The intradermal injection of hydrocortisone as the sodium succinate has been used successfully in the treatment of the conditions listed in Table 3. The pain of injection can be decreased by the use of 2% Procaine® solution as a diluent. Care must be taken to avoid blanching which may result in a slough of the

TABLE 3

Conditions in which the intradermal injection of steroids especially hydrocortisone is of benefit.

1. Sarcoidosis
2. Chronic discoid lupus erythematosus
3. Necrobiosis lipoidica diabetorum
4. Alopecia areata
5. Keloids
6. Localized scleroderma
7. Lichen simplex chronicus
8. Xanthomatosis

overlying skin. Since the end result may be an atrophic scar, raised areas respond more satisfactorily than flat ones.

#### SUMMARY

Intelligent use of the steroids in the treatment of skin diseases depends on proper diagnosis of the eruption, adequate dosage to control the symptoms initially with careful reduction to a maintenance dose which should be stopped when the patient is able to continue without its support. There should be continued supervision of the patient's diet. Blood pressure, urine tests for sugar, and weight should be regularly checked. Prescriptions should be limited in time and amount. All of the standard measures for control of the eruption should be used in conjunction with the steroid. These may include the use of antibiotics, local compresses, creams and ointments as indicated as well as determination and removal of offending allergens.

Hydrocortisone acetate and triamcinolone acetonide preparations afford the safest effective topical medications for the relief of pruritic eruptions, and fluorohydrocortisone preparations should be used with caution because of the possible effects of absorption when used over extensive areas. The routine incorporation of antibiotics in local hydrocortisone preparations may result in increased sensitivity to these agents.

Intradermal injection of hydrocortisone is effective in treatment of small raised lesions as seen in sarcoidosis, keloids, necrobiosis lipoidica diabetorum, xanthomatosis and other conditions as listed.

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*Continued on page 88*

# Development Of The Community Health Center

ALFRED E. SWETT, M.D.\*

This paper is a brief report on the origin and development of a community health project which is now nearing completion in central Maine.

Many of the small rural communities in this state are seeking to attract physicians to their areas. One of the disadvantages of medical practice in such areas, is the lack of the medical facilities which are taken for granted by physicians in urban communities. This includes laboratory facilities, X-Ray, and even medical supplies and drugs. Perhaps the most elusive item is a proper building with adequate space, heating plant and water supply in a central and easily accessible location.

In order to make the area more attractive to physicians, a group of residents of Poland and New Gloucester, in the late months of 1957, became interested in the establishment of such facilities.

The first organization to sponsor this project was the Sabbathday Lake Grange. In October and November of 1957 several meetings were held at the Grange Hall. Interested groups from several surrounding communities were present and interest in the project was expressed by groups from Casco, Gray, Mechanic Falls and Raymond. At one of these early meetings, Mr. George Nilson, District Director of the Bingham Foundation, was present to assist in the development of an organization capable of implementing this plan. Also present was Mr. Ernest Wilkins, who had been instrumental in the development of the Ervin A. Center Clinic in Steep Falls.

Once a nucleus of individuals who would support this idea was formed, the next step was to establish a non-profit corporation. In the early months of 1958 articles of association were drawn up and signed. The group became the Community Health Center Incorporated.

Within a few months several pieces of land were offered as sites for the new building. A location was chosen at the junction of routes twenty-six and one-hundred-twenty-two in Poland Spring.

Several inquiries were made concerning assistance from philanthropic foundations and from government funds. Unfortunately Hill-Burton Funds were not available for the project. Bingham Foundation was willing to assist in the training of technicians to work in the unit. Sears Roebuck Foundation had in the past given financial support to similar projects, but because a recent Internal Revenue Service ruling had questioned the tax status of such funds, they were unable to offer financial backing. However, they did agree to offer services which would assist in the completion of this

project in three ways. The first was to complete a survey of the medical needs of the area. This was to be done by Dr. Leon Lezar of the University of Vermont, College of Medicine, Department of Preventive Medicine, and his staff. The second was to provide complete plans, blueprints and architectural services for a suitable building. The third was to organize and provide the necessary materials for a fund raising drive.

The survey was carried out in February 1958 using volunteer community interviewers assisted by the University of Vermont staff in administering a standard questionnaire. The report recommended that facilities for two physicians be constructed in the area to meet the problem of availability of medical care on a continuous and permanent basis. The cost of such a unit was estimated at \$40,000. The anticipated cost of operating the health center would be from twelve to fifteen thousand dollars per year. Experience in health centers already operating indicates that there is no problem in maintaining a balanced budget in these units.

With this encouragement and assistance the Community Health Center's Board of Trustees began planning a campaign to raise the necessary funds for their building. Membership in the corporation was open to anyone who contributed to the center. A unique plan was evolved whereby contributions could be made in cash, materials or services. The total amount of cash required was greatly reduced by the large quantities of building materials and labor which were volunteered.

In the spring of 1959 excavation and site preparation were begun. Progress has been rapid despite limited funds. At the present time the exterior of the building has been completed, the heating plant has been installed and the water supply provided. Much remains to be done in completing the interior of the building and equipping it. It is hoped that this will be accomplished during the present year. The next step will be the location of two physicians to operate this new unit.

This project and others like it are of importance to us as physicians in that they indicate clearly the growing demand for increased quantity and quality of medical care. They demonstrate the resourcefulness and perseverance of residents of our smaller communities to make their towns more attractive to physicians. We physicians should, individually and collectively, do whatever possible to assist in the completion of these projects.

The individuals who have contributed so much of their time and resources to the development of this particular project expect nothing in return but the availability of medical care for their families. They are to be congratulated for their noteworthy contribution to their communities.

\*From the General Practice Department, Central Maine General Hospital Development of the Community Health Center.



# P.B.I. Determinations

## At The Maine Medical Center

MARY M. ANDREW, GEORGIANA L. SANDEEN, JEROME R. TICHY\*

An extensive literature exists on the determination of protein bound iodine in biological material. Chaney has presented a comprehensive review of the methods used for the P.B.I. analysis together with discussions of the modifications introduced into the procedures by various investigators.<sup>1</sup> Detailed procedures for carrying out the determination by the acid-distillation and alkaline-ash methods have been published.<sup>2</sup>

Under the conditions prevailing in this laboratory, it has been established that the acid-distillation method does not give satisfactory results. I recovery is erratic and low, varying between 60-80% of the I present.

With the alkaline-ash method, on the other hand, I recovery is good with acceptable precision. Because of the better reliability of the alkaline-ash method, it has been introduced into the Maine Medical Center as a routine procedure for the determination of P.B.I.

The purpose of this communication is to establish the accuracy and precision of the method and to present a description of the analytical procedure.

In Table I, the results obtained on the analysis of Versatol samples with a certified P.B.I. content of 6.1 mcgm.% are given. The average value obtained,  $5.9 \pm 0.60$  mcgm.%, indicates recovery is 97.0% and the precision is better than 1.0 mcgm.%.

Analysis of the data shows there is a systematic error present in the procedure. The data from the blanks suggest that the cause of this error is reagent contamination. Since reasonable caution has been exercised to eliminate this source of error through manipulative technique, it is concluded the observed contamination is caused by variations in the laboratory atmospheric conditions. From a practical point of view, there is not much that can be done to correct this situation. To keep the analysis under control, Versatol samples are run along with samples to be analyzed. From the ratio of the known I : found I content of the Versatol, a correction factor is calculated. The limits of the factor for this laboratory are 0.85-1.30.

### Experimental:

The solutions are prepared with distilled water obtained from the Maine Medical Center Supply. Glassware is washed with hot detergent solution, rinsed with

3-4 washings of distilled water, and dried in an oven at 105°.

### Equipment:

1. Pyrex test tubes, 16 x 125 mm., Corning Cat. No. 9980-DK-01.
2. Coleman Jr. Spectrophotometer.
3. Temco, model CEA, muffle furnace.
4. Thelco precision oven, model 17.
5. Elconap water bath.
6. Coleman Cuvettes, 19 x 105 mm., Cat. No. 14-302 C.
7. International Centrifuge, Model CL.

### Solutions:

1. *Zinc Sulfate*: 12.5 gm.  $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$  dissolved in 31.0 ml. of 1 N  $\text{H}_2\text{SO}_4$  and made up to 1 L with  $\text{H}_2\text{O}$ .
2. *1 N Sulfuric Acid*: 28.4 ml. conc.  $\text{H}_2\text{SO}_4$  made up to 1 L with  $\text{H}_2\text{O}$ .
3. *Potassium Carbonate*: 138.0 gm.  $\text{K}_2\text{CO}_3$  dissolved in 500 ml. of  $\text{H}_2\text{O}$ .
4. *2 N Hydrochloric Acid*: 165 ml. of conc.  $\text{HCl}$  dissolved in 1 L of  $\text{H}_2\text{O}$ .
5. *7 N Sulfuric Acid*: 200 ml. of conc.  $\text{H}_2\text{SO}_4$  dissolved in 1 L of  $\text{H}_2\text{O}$ .
6. *Acid Mixture*: 200 ml. of 2 N  $\text{HCl}$ ; 200 ml. 7 N  $\text{H}_2\text{SO}_4$  and 300 ml.  $\text{H}_2\text{O}$ .
7. *0.75 N Potassium Hydroxide*: 42.0 gm.  $\text{KOH}$  dissolved in 1 L of  $\text{H}_2\text{O}$ .

*Standard Sodium Iodide Solution*: 0.6236 gm.  $\text{NaI}$  are dissolved in 250 ml. of  $\text{H}_2\text{O}$ . This solution contains 2.1 mg./ml. Two dilutions of 1:100 are made to prepare the working standard.

*Ceric Ammonium Sulfate*: An approximately 0.02 N solution of ceric ammonium sulfate is made by dissolving 12.701 gm. of the salt in 1 L of 0.5 M  $\text{H}_2\text{SO}_4$ . This solution is adjusted by dilution with  $\text{H}_2\text{O}$  to bring the % transmission of the blank within the range of 20-30%. This dilution is usually 1 part of solution to 3 parts of  $\text{H}_2\text{O}$ .

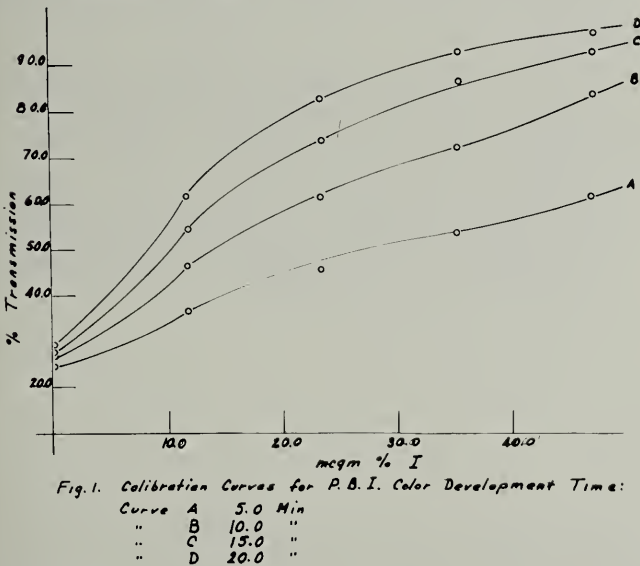
*Arsenious Acid*: An approximately 0.10 N solution is prepared by dissolving 3.0740 gm. of Bureau of Standards  $\text{As}_2\text{O}_3$  in 40 ml. of 30%  $\text{NaOH}$ . Dilute with water to 200 ml. Acidify the solution with 6 N  $\text{HCl}$  to the acid color of methyl red indicator. Dilute to 500 ml. Adjust the final dilution so that the % transmission of the blank is between 20-30%.

\*Pathology Laboratory, Maine Medical Center, Portland, Maine.

TABLE I

Sample	P.B.I. mcgm.%	V — A*	$\frac{V - A}{V - A}$
1	6.0	0.1	0.01
2	8.3	2.4	5.76
3	5.7	—0.2	0.04
4	5.2	—0.7	0.49
5	6.0	0.1	0.01
6	5.5	—0.4	0.16
7	4.8	—1.1	1.21
8	5.6	—0.3	0.09
9	5.1	—0.8	0.64
10	5.5	—0.4	0.16
11	5.6	—0.3	0.09
12	5.1	—0.8	0.64
13	5.5	—0.4	0.16
14	5.2	—0.7	0.49
15	5.7	—0.2	0.04
16	6.2	0.3	0.09
17	6.6	0.7	0.49
18	6.6	0.7	0.49
19	6.5	0.6	0.36
20	6.8	0.9	0.81
21	6.1	0.2	0.04
22	6.1	0.2	0.04
Total	129.7	$\frac{V - A}{V - A} =$	12.31
Av. value =	5.9	S.D. =	$\pm 0.60$

\*V = value found for Versatol  
A = average value found  
S.D. = standard deviation



Procedure:

In a thick walled, 16 x 125 mm. pyrex test tube (Corning Cat. No. 9880-DK-01), place 8.0 ml. of the ZnSO<sub>4</sub> solution. Add 2.0 ml. of serum. Stir well with a glass rod and wash down the rod with a small amount of water. Prepare two Versatol samples to be carried through as controls, and two reagent blanks using 2.0 ml. of H<sub>2</sub>O instead of serum.

Add 1 ml. of KOH solution. Stir the precipitate well with a glass rod and wash the rod with water. Let the precipitate stand for 10-20 minutes. Centrifuge

the mixture at high speed for 10 minutes or until the pellet is well packed and the supernatant liquid is clear. Discard the supernatant liquid.

Wash the precipitate with 5.0 ml. of distilled water. With a glass rod, work the precipitate with the water until it is smooth and free of clumps. Wash the stirring rod with water and centrifuge as before.

Repeat the wash procedure.

Add 1.0 ml. of K<sub>2</sub>CO<sub>3</sub>. Place the tubes in an oven heated to 100-110° C and allow to dry overnight.

Incinerate the tubes in a muffle furnace at 600°  $\pm$  50° C for 3 hours. While the ash tubes are cooling, prepare the color reaction test as follows:

Set up one Coleman Spectrophotometer cuvette for each serum sample. Add 1.0 ml. of arsenious acid and 1 ml. of distilled water to each cuvette.

Add 7.0 ml. of the acid mixture to the cooled tubes containing the ashed residue. This addition should be carried out cautiously to prevent excessive frothing. Pipette 3.0 ml. of the dissolved ash solution into each color reaction tube. Place the rack containing the color reaction tubes in water bath (35°  $\pm$  0.5) for about 10 minutes. Also place in the bath a tube containing the ceric ammonium sulfate (1.0 ml. of reagent for each sample plus 2.0 ml. excess). Run the color reaction test as described below for the standard curve.

Reagent Blank Solution for Standard Curves:

Carry the above procedure up to the incineration step, substituting 2.0 ml. of distilled water for the sample. Dissolve the cooled samples in 7.0 ml. of acid-mixture and pool the solutions in a beaker.

Preparation of Standard Curve:

Set the wavelength scale of the Coleman Junior Spectrophotometer at 420 mu. Add standard I solution and water to 10 cuvettes (2 sets of 5 tubes each) according to the following schedule:

		5	10	15	20
	Blank	mcg.	mcg.	mcg.	mcg.
ml. Standard Solution	0	.25	.50	.75	1.0
ml. H <sub>2</sub> O	1.0	.75	.50	.25	0

Add to each tube 1.0 ml. of arsenious acid and 3.0 ml. of the pooled reagent blank. In another tube place 12.0 ml. of ceric ammonium sulfate. Stopper all tubes and equilibrate in the water bath for 10 minutes.

Prepare a table for recording readings of % transmission at 5, 10, 15 and 20 minutes. Add 1.0 ml. of ceric ammonium sulfate to each tube at 1/2 minute intervals. At the end of 5 minutes, record the % transmission at 1/2 minute intervals. Repeat the process for the 10, 15 and 20 minute readings.

In figure No. 1 a representative example of the type of calibration curves obtained is reproduced. The points plotted on the X-axis have been multiplied by 7/3 for convenience in calculation. This factor in effect corrects the final determination for the 3.0 ml. aliquot taken for the color reaction from the 7.0 ml. sample.



Calculation:

$$C = \frac{\text{Known I}}{\text{Found I}} \quad \text{Versatol}$$

$$I_i = \frac{R - B}{2}$$

$$I = \left( \frac{R - B}{2} \right) C \text{ mcgm.}\%$$

C is the correction factor calculated from the Versatol samples.

R is the average I content of the sample for the 20 minute run.

B is the average I content of the blank for the 20 minute run.

2 is the factor for the sample size.

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85 Goff Street, Auburn, Maine

# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **The Month In Washington As Seen By AMA's Washington Office**

Congress appears headed for a showdown this session on legislation for the Federal government to provide medical care for aged persons.

The medical profession and allied groups stepped up their activities in opposition to such legislation as indications mounted that the issue was approaching a crucial stage. Several State Medical Societies planned to send delegations to Washington to personally express their opposition to their Congressmen.

Pressure behind such legislation began to build up early in February.

The Eisenhower Administration announced it was working on three possible programs for providing health care for aged persons in cases of catastrophic — lengthy and costly — illness.

Without amplification, President Eisenhower told a news conference that there was under consideration "a possible change" in the Social Security Act "to run up the taxes by a quarter of a per cent to . . . make greater provision for the care of the aged." The President's statement that "there has been no conclusion reached in the administration" was backed up by Arthur S. Flemming, Secretary of Health, Education and Welfare, in a clarifying announcement.

Flemming said his department was working on two other approaches to what he called a serious problem in addition to the possible revision of the Social Security law mentioned by Mr. Eisenhower. The HEW Secretary said consideration also was being given to: 1) step-

ped-up Federal assistance under the Federal-state public assistance program, and 2) the Federal government supplementing voluntary insurance programs.

Flemming again expressed opposition to the Forand bill which would increase Social Security taxes by one quarter of one per cent each on employers and employees to provide hospitalization, surgical benefits and nursing home care for Social Security beneficiaries. The Secretary said he wanted to "underline that the position of the administration is opposition to the Forand bill."

Flemming said he hoped to have an administration bill ready to submit in early April to the House Ways and Means Committee where the Forand bill is pending. The Committee is scheduled to take up in late March or early April proposed changes to the Social Security Act.

Proponents of the Forand bill — which is vigorously opposed by the American Medical Association and allied groups — were pointing their campaign toward securing the House Committee's approval of the legislation at that time.

The AFL-CIO, a main supporter of the Forand bill, urged labor union members to write to congressmen on the Committee urging them to vote for it. The AFL-CIO also distributed a pamphlet quoting a handful of physicians as supporting the legislation. But the labor organization didn't mention that the overwhelming majority of doctors oppose it.

The Senate Subcommittee on Problems of the Aged and Aging, headed by Senator Pat McNamara (D., Mich.), issued on behalf of its Democratic majority a report stating that use of the Social Security program



"is the most efficient procedure for providing" health care for older persons.

The AMA and the Subcommittee's Republican minority promptly disputed this conclusion. An AMA statement issued in Chicago said:

"The American Medical Association today sharply disagreed with the recommendation of the McNamara subcommittee regarding government medicine for Social Security beneficiaries.

"Dr. Louis M. Orr, Orlando, Florida, President of the A.M.A., said:

"This is a politically inspired committee. Senator McNamara, Democrat from Michigan, has long supported political medicine. The fact is that at the seven subcommittee hearings held throughout the United States, observers heard little support expressed by the older citizens who attended the hearings for government medicine financed by additional taxes and administered through Social Security."

The Republican minority stated that testimony before the Subcommittee "proves that it is possible for elderly people to secure private insurance to provide hospitalization and surgical benefits without any intervention by public authorities."

Senator John F. Kennedy (D., Mass.), a leading contender for the Democratic nomination for President, introduced legislation similar to the controversial Forand bill but broader in scope. The Kennedy bill would eliminate surgical benefits but would add diagnostic outpatient and home nursing services.

## HR 10 Outlook Brighter; Briefs On Capitol Hill

The outlook for Senate approval of HR 10, voluntary pension plan for self-employed professionals and businessmen, is brighter now than at any time since the House passed the bill last year. Backers are confident it will be taken up by Senate Finance within the next 30 days and that it has the votes to get through the committee and onto the floor. Since there are 17 members, nine ayes will assure a favorable report. The passage of HR 10 over Treasury opposition is improbable, a fact that points to modification of the bill to curtail revenue losses without sacrificing principle of tax-deferred savings.

## Certain Drugs Can Cause Gout

Certain drugs for treating hypertension should not be given patients susceptible to gout, a heart researcher warned today.

"For the present, it appears propitious to avoid the use of chlorothiazide and other benzothiadiazine compounds in patients with a history of gout and to suspect the possibility of gout in patients treated with these drugs who complain of aching and painful joints," Dr. Leon J. Warshaw, of the Cardiovascular Research Unit, Beth Israel Hospital, New York, said.

Writing in the February 20, 1960 *Journal of the American Medical Association*, Dr. Warshaw said hyperuricemia, an excess of uric acid in the blood and a characteristic of gout, "is a relatively frequent concomitant of chlorothiazide administration. . . .

"Although the mechanism by which chlorothiazide produces hyperuricemia, and the relationship between this hyperuricemia and the clinical manifestations of gout, are not clearly understood, these phenomena are a drawback to the use of this drug, especially in patients with a history of gout," he said.

Dr. Warshaw said a recent report suggesting a relationship between hyperuricemia and coronary artery disease and heart attacks "makes it urgent that the true significance of the hyperuricemia be established."

Gout is a disease in which the primary symptom is a painful inflammation of the joints of the hands or feet, and especially the big toe.

## "White Fleet" Rejected

The Department of Defense sent a letter to Congress last week opposing S. Con. Res. 66 to set up a "Great White Fleet" to minister to the world's sick and disaster-stricken, as dramatically portrayed last summer by the Life magazine. "The concept is laudable," said the Pentagon, but it's best to wait and see how "Project Hope"\* comes out. The latter is a privately sponsored program utilizing a Navy hospital ship and for which public fund-raising is currently in progress.

## A.M.A. Embarks On Major Study Of Medical Care Costs

A "Commission on the Cost of Medical Care," to delve into every phase of medicine where cost or spending is involved, was announced by the American Medical Association today. An initial grant of \$100,000 was appropriated to launch the study.

"This study-project is being undertaken," said Dr. Louis M. Orr, Orlando, Florida, president of the A.M.A., "because the American public is spending increasing amounts of money for all types of medical care. These expenditures involve the peoples' lives, health, and pocketbooks. We would like to find where economies may be achieved in the best interests of the patient. The commission will analyze the cost picture from every angle and try to come up with some sound advice and suggestions."

## Civil Defense Planning

The budget for Office of Civil and Defense Mobilization includes \$22 million for grants to the states. For the first time, Federal funds are provided to defray per-

\*William B. Walsh, M.D., the guiding light of "Project Hope" was a featured speaker at the Maine Medical Association's Annual Session last June.

sonnel and administrative costs of the state and local civil defense organizations. A sharp increase has been granted for Federal stockpiling of *cw* and *bw* as well as *aw*, defense equipment — \$11.4 million, compared with \$6.9 million this year. This includes stockpile management.

### Ulcer Not Rare In Youth; Often Unnoticed For Years

Junior could get a peptic stomach ulcer before his "old man." And if his father does develop the ailment, it may have started in his youth.

These are the conclusions of three Chicago physicians reported in the February, 1960 American Medical Association *Journal of Diseases of Children*.

"Despite its relative infrequency, peptic ulcer in children should not be considered rare," they said.

"The true incidence of peptic ulcer in children cannot be evaluated on the basis of the recorded cases, since these undoubtedly represent a small fraction of the total number of children with the disease. In many cases, symptoms are entirely lacking and the condition is identified only at operation or autopsy."

Drs. Alberto Ramirez Ramos, Joseph B. Kirsner, and Walter L. Palmer of the University of Chicago department of medicine cited studies showing that out of 1,000 adult patients with duodenal ulcer, 26 of them had symptoms traceable as far back as four years of age, and out of 1,000 with gastric ulcer, 16 had symptoms that dated from childhood.

From their own experience with 32 cases of peptic ulcer in children up to age 15, observed from 1936 to 1958, they concluded that:

—Chronic peptic ulcer in children is more frequent in males than in females at all ages.

Symptoms of peptic ulcer are vague in children until the age of puberty when they begin to resemble those of adults.

—Duodenal ulcers exceed gastric ulcers.

—Chronic peptic ulcer in children is more frequent than acute ulceration and often remains unrecognized for long periods.

—Medical management with avoidance of gastrointestinal irritants in food and medication, frequent antacids, and sedation, is effective in the majority of children with peptic ulcer.

—As in the adult, surgical management may be necessary in childhood peptic ulcer complicated by hemorrhage or perforation.

The cause of peptic ulcer in children remains as obscure as its occurrence in adults, the researchers noted.

However, in the four cases of acute peptic ulceration among the 32 patients, cerebral damage and certain drugs may have been implicated as causative factors, they said.

Two patients, aged 6 and 7, developed acute peptic ulceration following a month's treatment with cortico-

tropin, salicylates, and aspirin for rheumatic fever. But it could not be determined whether the drugs produced the ulcers, or irritated a susceptibility to ulcer, or whether rheumatic fever predisposed to peptic ulceration.

### Gifts Of U.S. Surplus Will Pass \$400 Million

Gifts of Federal surplus property for public health, educational and civil defense uses will exceed \$400 million in the current fiscal year, ending next June 30. This will be an all-time record and compares with \$363 million last year and \$321 million in 1957-58. For the last calendar quarter of 1959, the Department of Health, Education and Welfare distributed among various states surplus equipment, supplies and real property with an acquisition cost of \$88,842,822. Educational institutions (including medical, dental and nursing schools) get 75 per cent of this surplus and public health and civil defense agencies divide the remainder almost equally.

Just published is a directory of heads of all state agencies for the distribution of government surplus, with telephone numbers and extensions included along with mailing addresses. The Department of Health, Education and Welfare officials for surplus property also are listed for all nine administrative regions. A separate leaflet tells how tax supported and nonprofit institutions should go about applying for surplus. Copies of either or both publications will be supplied gratis by the Washington Report On The Medical Sciences, upon request.

### Commissioner Overruled

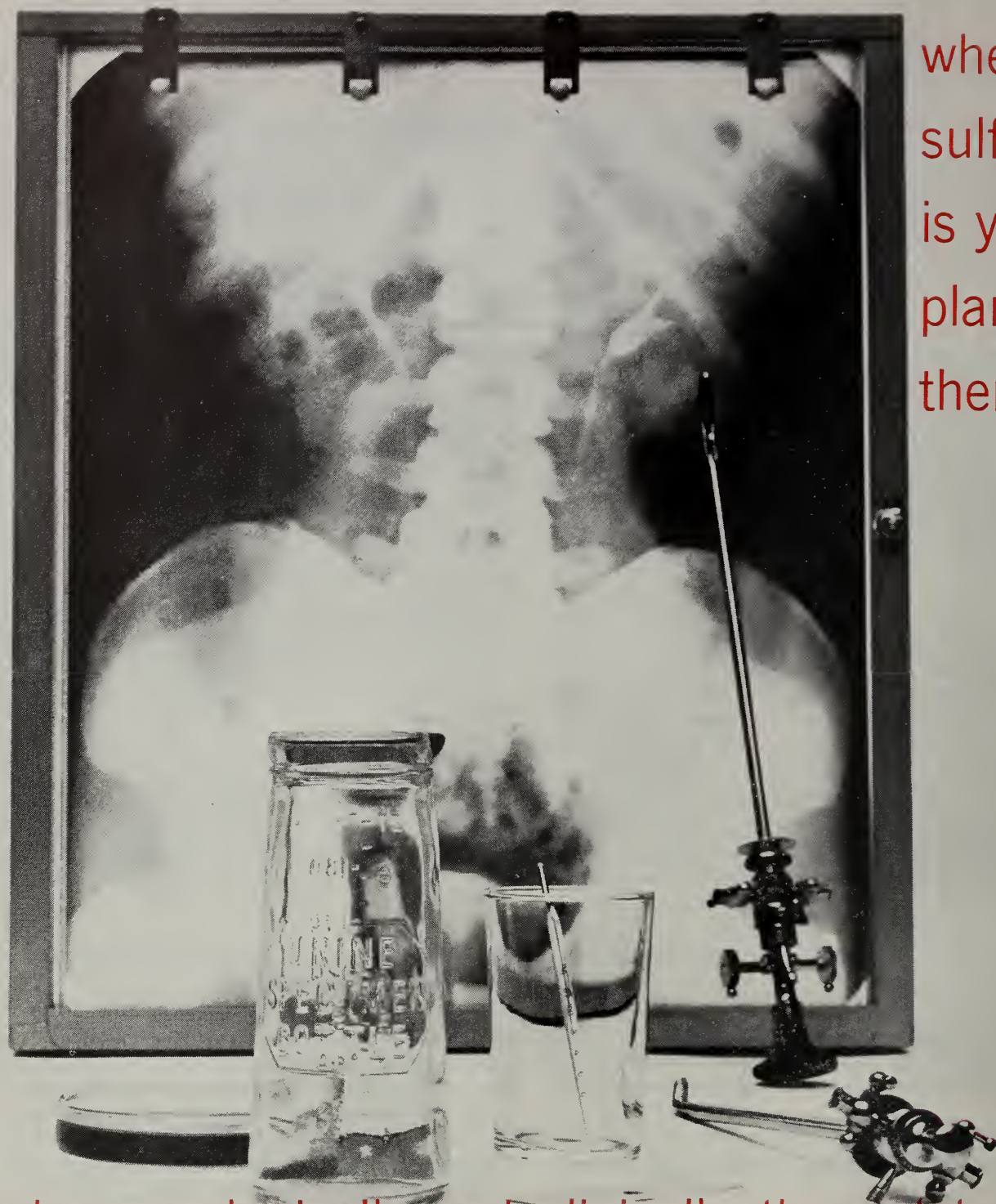
The Commissioner of Internal Revenue previously had held that profit is not the primary aim of medical practice, hence the partners in the Idaho group were liable for payment of the surtax in their roles as stockholders of the holding company. Taking an appeal, and now winning it, the nine physicians and one dentist involved were informed by the court that their activity is definitely commercial, within meaning of that section of law which exempts from this special tax those undertakings engaged "in the operation of a bona fide commercial, industrial or mining enterprise."

Tax Commissioner Dana Latham has formally acquiesced in a U.S. Tax Court decision last fall (Washington Report On The Medical Sciences No. 647) that expenses of inter-urban travel to consult the physician of one's choice are deductible. This lays down a general rule that if a trip — even across country — is made once or more times a year for express purpose of medical diagnosis, checkup or treatment, necessary expenses of the travel may be deducted under the heading of medical expenses.

Hearings will be held at the Internal Revenue Service on proposed regulations relating to definition of association, partnership and certain other terms.



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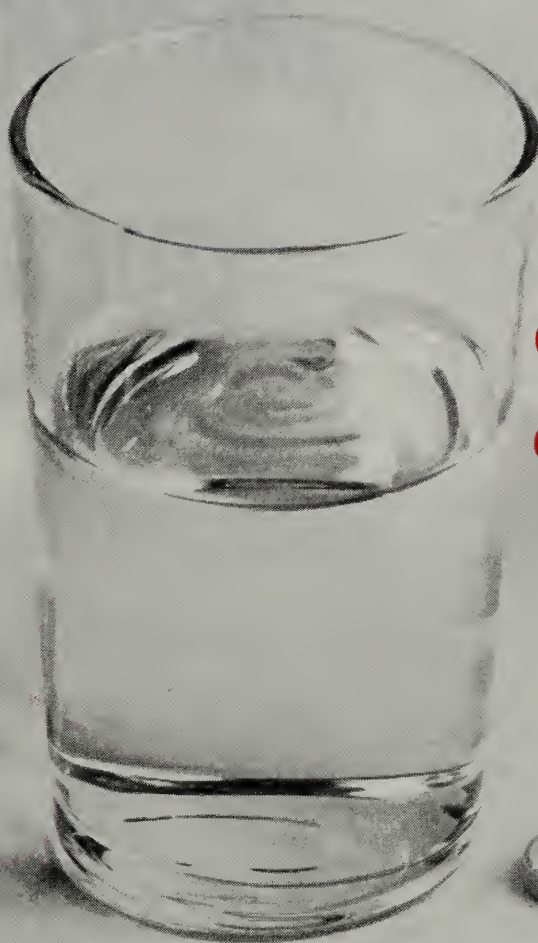
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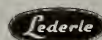
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# ANSWERING QUESTIONS



## The Federal Employees Health Act Its Significance For Medicine

The Federal government, as an employer — the largest employer in the U.S.A. — is about to provide medical care security to some 4 million Federal employees and their dependents.

Under the new Health Benefits Act passed by Congress last September, government workers will begin to enroll about June 1, 1960 in one or another of four types of hospital and medical care programs: 1) a service benefit plan (Blue Cross-Blue Shield); 2) an indemnity plan (underwritten by an insurance company); 3) an employee organization plan (of which a considerable number have been set up by Federal employee organizations); 4) a comprehensive "closed panel" plan (such as the Kaiser Health Plan or H.I.P.) — where such programs exist. Federal contributions will commence in July toward the cost of whatever plan may be selected by each Federal worker.

Each employee will have the utmost freedom to choose among the specific plans to be approved by the U. S. Civil Service Commission in negotiations now going on between the Commission and the "carriers" of the four types of program specified in the Act.

Our government has shaped its program in accordance with the mutual desire of its employees and their doctors for a free choice of physicians and plan.

To meet the natural requirements of the Civil Service

Commission for a reasonable degree of uniformity among the programs offered by the 79 Blue Cross and the 67 Blue Shield Plans, many Plans will have to alter or add to their established benefit provisions. This will call for cooperation among all of us who are providing services to patients under our local Blue Shield Plans.

The significance of the Federal Employee Health Benefits Act for the future of American medicine can scarcely be exaggerated. Under the terms of this act, our government will contribute toward the cost of a hospital and medical care coverage program for all Federal employees. Thus, the government as an employer assumes a direct interest in, and responsibility for, the health care of its career servants.

Moreover, the government may be expected to scrutinize the effectiveness of the coverage provided in order to assess the capacity of our voluntary programs to function in an acceptable fashion in meeting the public's need for "prepaid" health services. Thus, our voluntary system of prepayment as well as those dedicated to the support of those programs may be said to be on trial. And if our physician-sponsored programs serve creditably and satisfactorily, the medical profession through its own prepayment plans will have struck a mighty blow for the future of free enterprise and the private practice of medicine.

## INTERIM MEETING

Maine Medical Association House of Delegates

Sunday, April 3, 1960

THE STOWE HOUSE, BRUNSWICK, MAINE

---

Dinner at 12:30 P.M. followed by the Business Meeting

Presiding, Wilson H. McWethy, M.D., Augusta, President-elect

---

The Order of Business will include financial statements for 1959-1960, proposed budget for 1960-1961 and other matters to be acted upon at the Annual Meeting in June.

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### **Maine Medical Association Council**

The Council will meet at the M.M.A. headquarters in Brunswick at 10:00 A.M.





DEAN H. FISHER, M.D.  
COMMISSIONER

## State Of Maine

# Department of Health and Welfare

## Illegitimate Births In Maine, 1958

EDSON K. LABRACK, M.P.H.\*

In 1958 there were 741 children born to unmarried women who were residents of Maine. This was 3.2 per cent of all resident live births during the year. The number and rate of illegitimate births were both up slightly in 1958, but there was no essential change in the level of illegitimate births which has been quite stable during the past ten years.

### THE TREND IN ILLEGITIMATE BIRTHS

Statistics on the number of illegitimate births in Maine are available from 1930 to the present. The pattern of illegitimate births during this period is shown in Chart 1. During the middle and late 1930s the proportion of illegitimates was fairly stable around 3.3 per cent. In 1940 the proportion dropped off steeply and fell to a record low of 2.6 per cent in 1941. The rate then rose sharply during the war years to a peak of 5.0 per cent in 1945. After World War II the rate dropped off sharply and during the 1950s the proportion of illegitimate live births has been stable around 3.1 per cent.

The proportion of white illegitimate live births to Maine residents is nearly twice the proportion of white illegitimate live births in the 36 states in the U. S. for which statistics on illegitimacy are available. Maine's proportion of illegitimate live births was exceeded only by those in West Virginia, District of Columbia, and Vermont.

Non-white illegitimate births are excluded from this discussion since less than 1.0 per cent of all live births in Maine are non-white. There is reason to believe that socio-economic status of the population may influence the proportion of illegitimates born, and the socio-economic status of the non-white population in many areas of the U. S. is not comparable to that of whites.

### GEOGRAPHIC DISTRIBUTION OF ILLEGITIMATE BIRTHS

The numbers of births in some of the less populous counties in the State are relatively small. The numbers and proportions of illegitimate births in these counties

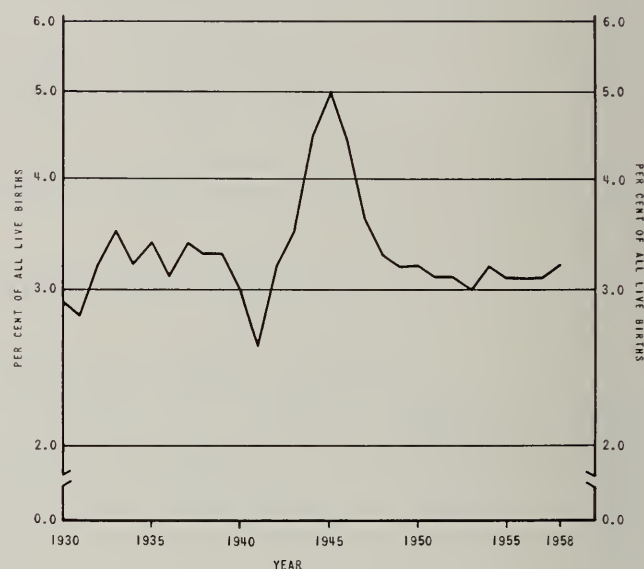


CHART I

fluctuate from year to year as a result of random error. These random fluctuations may mislead an unwary observer who is looking at data for a single year. For this reason five year average proportions were calculated and appear in Table 1, along with numbers and proportions of illegitimate births in each county in 1958.

The 5 year average proportions of illegitimate births ranged from a low of 1.7 per cent in Aroostook County (about the same as the proportion of white illegitimate births in the U. S. as a whole) to a high of 5.1 per cent in Washington County. The percentage of illegitimate births becomes progressively higher moving from west to east across the State.

The percentages for Androscoggin and Aroostook Counties were atypically low.

### RURAL AND URBAN DISTRIBUTION OF ILLEGITIMATE BIRTHS

In 1958 the percentage of illegitimate births for residents of rural areas in the State was the same as the percentage of illegitimate births for residents of urban places. Both stood at 3.2 per cent. However, when data for Portland are removed, the proportion of illegiti-

\*Director, Division of Vital Statistics

TABLE 1

NUMBER AND PER CENT OF ILLEGITIMATE LIVE BIRTHS, 1958, AND AVERAGE PERCENT OF ILLEGITIMATES, 1954-58: EACH COUNTY, MAINE

County	1954-1958		
	Illegitimate births, 1958	Average	
	Number	Per cent of total births	Per cent of total births
State	741	3.2	3.1
Androscoggin .....	48	2.5	2.5
Aroostook .....	57	1.7	1.7
Cumberland .....	155	3.6	3.4
Franklin .....	15	2.9	3.2
Hancock .....	27	4.0	4.2
Kennebec .....	73	3.6	3.3
Knox .....	22	3.8	3.5
Lincoln .....	22	5.8	3.8
Oxford .....	32	3.1	3.0
Penobscot .....	96	3.0	3.8
Piscataquis .....	19	4.6	3.7
Sagadahoc .....	18	3.5	2.9
Somerset .....	34	3.7	3.6
Waldo .....	20	4.0	3.7
Washington .....	37	5.2	5.1
York .....	68	3.2	3.1

mates born to residents of the remainder of the urban places in the State is lower than the proportion of illegitimates born to residents of rural areas in the State. Table 2 shows illegitimate births by size of the city or town of residence of the mother. With the exception of the one city with a population in excess of 50,000 (Portland), the proportion of illegitimate births varies inversely with the size of the city or town.

TABLE 2

ILLEGITIMATE LIVE BIRTHS BY SIZE OF CITY OR TOWN OF RESIDENCE OF MOTHER: MAINE, 1958

Population size	Number of towns	Total live births	Illegitimate births	
			Number	Per cent
Total urban	48	14,235	454	3.2
Total rural	444	8,920	287	3.2
50,000-100,000	1	1,729	99	5.7
25,000- 50,000	2	1,921	51	2.6
10,000- 25,000	11	4,178	118	2.8
5,000- 10,000	16	3,201	87	2.7
2,500- 5,000	18	3,206	99	3.1
less than 2,500	444	8,920	287	3.2

The high rate of illegitimate births attributed to residents of Portland appears to be due to misstatement of residence information on birth certificates. In an effort to ascertain the extent of this misstatement, the names and addresses of the mothers of illegitimates who gave a Portland address as their usual residence were checked against the Portland City Directory for 1958. Findings of this check indicate that the number and percentage of illegitimate births attributed to Portland residents is probably overstated by about 50 per cent and that the true number and percentage of illegitimate births to

Portland residents probably approximate 47 and 2.7 respectively. (See appendix)

AGES OF MOTHERS

The median age of unmarried women who were residents of Maine and who gave birth to an illegitimate in 1958 was 21.8 years. This was 2 years younger than the estimated median age of white women in the U. S. who gave birth to an illegitimate in 1957, the latest year for which these data are available for the U. S. Comparative illegitimate live birth rates for selected age groups in Maine and in the U. S. are shown in Table 3.

TABLE 3

ILLEGITIMATE LIVE BIRTHS AND ESTIMATED AGE SPECIFIC ILLEGITIMATE LIVE BIRTH RATES PER 1,000 WOMEN MAINE, 1958, AND U. S., 1957

Age of mother	Illegitimate births		Est. illegitimate birth rate per 1,000 women	
	Maine 1958	U.S. est., 1957 1/2/	Maine 1958	U.S. est., 1957
Under 15	11	1,100	0.3	0.2
15-19	275	26,900	8.0	5.3
20-24	239	60,500	8.0	12.9
25-29	97	29,800	3.0	5.9
30-34	76	18,200	2.5	3.3
35-39	32	9,400	1.1	1.7
40-44	11	2,800	0.4	0.5

1/ Source: Vital Statistics of the United States, 1957, Volume 1, U.S. Department of Health, Education and Welfare, Public Health Service.  
2/ Includes white illegitimate births only.

Percentagewise, illegitimate births were at their highest in females under 15 years of age. Nearly 60 per cent of all births to mothers under 15 years of age were illegitimate. However, only 19 of the 23,155 resident births in 1958 were to females under 15 years of age and the illegitimate birth rate in this age group was estimated to be 32 illegitimate births per 100,000 unmarried females under 15 years of age. Unmarried women between 20 and 24 years of age had the highest illegitimate birth rate, whereas the highest legitimate birth rate was in married women between 15 and 19 years of age. Comparative legitimate and illegitimate birth rates and percentages of illegitimate births for selected age groups are shown in Table 4.

PARITY OF MOTHERS OF ILLEGITIMATES

About 60 per cent of the illegitimate births to residents of Maine in 1958 were first births for the mother. There were 9 women who had borne 9 or more children prior to the birth of this illegitimate child, and one woman was bearing her 16th child. Table 5 shows parity statistics by age for resident women who gave birth to an illegitimate in 1958.



TABLE 4

LEGITIMATE AND ILLEGITIMATE LIVE BIRTHS AND ESTIMATED BIRTH RATES AND PERCENTAGES OF ILLEGITIMATE BIRTHS BY AGE: MAINE, 1958					
Age of Mother	Live births		Percent Illegitimate	Estimated birth rates	
	Legitimate	Illegitimate		Legitimate 1/	Illegitimate 2/
Total	22,414	741	3.2	141.3	8.7
Under 15	8	11	57.9	40.0	0.3
15-19	3,048	275	8.3	662.0	9.3
20-24	7,759	239	3.0	353.5	31.6
25-29	5,832	97	1.6	207.7	23.5
30-34	3,503	76	2.1	128.3	26.2
35-39	1,766	32	1.8	67.1	9.0
40-44	467	11	2.3	19.4	3.3
45-49	26	—	0.0	1.0	0.0
not stated	5	—	0.0	—	0.0

1/ Estimated legitimate births per 1,000 married women.  
2/ Estimated illegitimate births per 1,000 unmarried women.

TABLE 5

ILLEGITIMATE BIRTHS BY AGE AND NUMBER OF CHILDREN BORN TO MOTHER: MAINE, 1958							
Age of mother	Number of children previously born to mother						
	Total	0	1	2	3	4	5 or more
Total	741	444	115	51	48	29	54
Under 15	11	11	—	—	—	—	—
15-19	275	246	26	2	1	—	—
20-24	239	136	49	28	17	3	6
25-29	97	32	18	12	13	13	9
30-34	76	16	14	7	11	8	20
35-39	32	2	7	2	3	3	15
40-44	11	1	1	—	3	2	4

SUMMARY AND CONCLUSION

Maine's rate of illegitimate births is higher than the rate of white illegitimate births in most other parts of the U. S. The proportion of illegitimate births is highest in the eastern part of the State. The county with the lowest proportion of illegitimate births was Aroostook and the county with the highest proportion was Washington. Mothers of illegitimates who were residents of Maine were younger on the average than mothers of white illegitimates in the U. S. as a whole. About 60 per cent of all resident illegitimate births in 1958 were first births.

of illegitimate live births which were attributed to Portland residents.

The names and addresses of the mothers of illegitimates whose residence was shown on the birth certificates as Portland were listed and the list was checked against listings in the 1958 Portland City Directory. This check appears to indicate that the residence data on half of these certificates was incorrect. The following table shows the findings of the check:

STATUS OF RESIDENCE OF ILLEGITIMATE BIRTHS  
WITH RESIDENCE OF MOTHER SHOWN AS  
PORTLAND, MAINE, 1958

Status in check against City Director	Births
Total	99
Mother's name and address listed in Directory	47
At address on birth certificate .....	27
At other Portland address .....	16
No street address on birth certificate .....	3
Mother's name and address not listed in Directory .....	52
Street address shown on certificate .....	33
No street address .....	19

APPENDIX

RESIDENCE ERROR IN PORTLAND ILLEGITIMATE  
BIRTH DATA

Data on illegitimate births obtained from birth certificates made it appear that 5.7 per cent of all births to residents of Portland in 1958 were illegitimate. This would mean that the proportion of illegitimate births in Portland was higher than in any other area of the State. This seemed contradictory to trends indicated by other data in the study, so it seemed desirable to make a check of the accuracy of residence data on certificates

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*It introduces a new therapeutic principle in the treatment of...*

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When used alone, Aldactone will produce a satisfactory diuresis in about half of those patients whose edema is resistant to conventional diuretic agents.

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**DOSAGE:** For most adult patients the optimal dosage of Aldactone, brand of spironolactone, is 100 mg. four times daily. Aldactone should be administered for at least four or five days before appraising the initial response, since the onset of therapeutic effect is gradual when it is used alone. Aldactone manifests accelerated activity with greater response as early as the first and second days when used in combination with a mercurial or thiazide diuretic.

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## COUNTY SOCIETIES

## ANDROSCOGGIN

President, Paul J. B. Fortier, M.D., Lewiston  
Secretary, Donald L. Anderson, M.D., Lewiston

## AROOSTOOK

President, Robert B. Somerville, M.D., Presque Isle  
Secretary, Clyde I. Swett, M.D., Island Falls

## CUMBERLAND

President, Donald F. Marshall, M.D., Portland  
Secretary, Albert Aranson, M.D., Portland

## FRANKLIN

President, Herbert M. Zikel, M.D., Wilton  
Secretary, Philip B. Chase, M.D., Farmington

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President, Arthur M. Joost, Jr., M.D., Bucksport  
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President, Ward A. Albro, M.D., Belfast  
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## WASHINGTON

President, Harold G. Sears, M.D., Woodland  
Secretary, Karl V. Larson, M.D., East Machias

## YORK

President, Robert F. Ficker, M.D., Kennebunkport  
Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## CUMBERLAND

February 18, 1960

The 265th meeting of the Cumberland County Medical Society was held at the Mercy Hospital on February 18, 1960. The meeting was called to order by the President, Dr. Donald F. Marshall. The guest speaker, Dr. Richard Tyler, Instructor in Neurology, Harvard Medical School, Peter Bent Brigham Hospital, spoke on the Modern Concepts of Cerebrovascular Disease. This was followed by the business meeting at which the minutes of the previous meeting were read.

Application for membership of Stephen E. Monaghan, M.D., Edward Blumberg, M.D., and Edward C. Matthews, M.D. were voted on favorably. Dr. Carl Richards reported for the council that 350 copies of letters sent to Congressmen had been received at the office of the Maine Medical Association. These concerned the Forand Bill. The membership of the Forand Committee and the Committee on Aging were announced by the President and are appended to the minutes.

It was announced by the Secretary that a surplus of \$3,000.00 had been transferred from the checking account to the Maine Savings Bank in order that it might accrue some interest. Several suggestions were made as to the use of this money or its interest. A motion was made by Dr. Thomas A. Martin and seconded that it be kept in the bank until a need arose for its use and this was passed.

A discussion ensued about a proposed panel of doctors and nurses for the April meeting and it was moved and passed that such a panel be held and that questions from the floor be limited to written questions submitted to the moderator during the meeting. A motion was made by Dr. John F. Gibbons that another panel be set up to discuss the deterioration of public relations in the medical profession. This was thoroughly discussed by various members of the Society and the motion was finally withdrawn by Dr. John F. Gibbons who proposed that the President and officers of the Society discuss the feasibility of such a panel and bring their thoughts on this subject to the next meeting.

ALBERT ARANSON, M.D.  
Secretary

## KENNEBEC

February 18, 1960

The regular meeting of the Kennebec County Medical Association was held on February 18, 1960 at the Augusta House. The meeting was called to order by the President, Dr. John F. Reynolds.

Resolutions on the deaths of Dr. Edmund P. Williams and Dr. Moses F. Lubell were presented and it was resolved that copies of these resolutions be incorporated in the minutes and copies sent to members of the families.

The problem of the Forand Bill was brought up and the members were urged to write to each member of the Maine delegation and to the Honorary Wilbur D. Mills, sending copies of their letters to Dr. Daniel F. Hanley at the Maine Medical Association.

The speaker of the evening was Donald C. Nasbeth, M.D., of Brookline, Massachusetts, who chose for his topic "Aortic Reconstruction with Plastic Prostheses."

ARCH H. MORRELL, M.D.  
Secretary

## PENOBSCOT

February 16, 1960

The February meeting of the Penobscot County Medical Society was held at the Tarratine Club, Bangor on Tuesday, February 16, 1960 with the President Dr. Albert C. Todd, presiding.

For the scientific portion of the program, Dr. Peter B. Dews from the Department of Pharmacology of Harvard Medical School presented a paper on Tranquilizers. Dr. Dews was introduced by Dr. Edward Babcock, Chairman of the Program Committee.

At the business meeting, the minutes of the January meeting of the Society were read and approved. The minutes of the February meeting of the Executive Council were read and approved. Drs. Michael Barton and Kong Lee were elected to membership.

Dr. Albert C. Todd appointed a Resolutions Committee of Drs. W. Merritt Emerson, Carl J. Hedin and Forrest B. Ames on the death of Dr. LaForest J. Wright.

Dr. Wilbur Manter spoke briefly on special diets for cardiac patients available to physicians from the Maine Heart Association.

PHILIP B. THOMAS, M.D.  
*Secretary*

## Penobscot County Medical Society

## Officers, Committees &amp; Delegates for 1960:

President, Albert C. Todd, M.D., Brewer  
President Elect, Richard C. Wadsworth, M.D., Bangor  
Secretary, Philip B. Thomas, M.D., Bangor  
Treasurer, Edward C. Porter, M.D., Bangor  
Delegates to the Maine Medical Association House of Delegates: Donald E. Bridges, M.D., Bangor, Wilfred I. Butterfield, M.D., Lincoln, Richard F. Desjardins, M.D., Millinocket, Bourcard Nesin, M.D., Howland, John A. Woodcock, M.D., Bangor. Alternates: Paul W. Burke, M.D., Newport, Edward L. Curran, M.D., Bangor, Donald F. Macdonald, M.D., Bangor, Charles D. McEvoy, Jr., M.D., Bangor  
Members of Executive Council: Clement S. Dwyer, M.D., Bangor, Allison K. Hill, M.D., Bangor and William A. Purinton, M.D., Bangor  
Public Relations: Carl E. Blaisdell, M.D., Chairman, Bangor, Mason Trowbridge, Jr., M.D., Bangor, George R. Walker, M.D., Bangor, Byron V. Whitney, M.D., Bangor and Philip B. Thomas, M.D., Bangor  
Blue Cross-Blue Shield: John J. Pearson, M.D., Chairman, Old Town, Lloyd Brown, M.D., Bangor, Clement S. Dwyer, M.D., Bangor and Leonard G. Miragliuolo, M.D., Bangor  
Program: James D. Clement, Jr., M.D., Chairman, Bangor, Thomas H. Palmer, Jr., M.D., Bangor and Robert O. Kellogg, M.D., Bangor  
Emergency Service: Albert L. Babcock, M.D., Bangor  
Diabetes: Edward J. Hughes, M.D., Brewer

## WASHINGTON

February 17, 1960

A regular meeting of the Washington County Medical Society in conjunction with the St. Croix Medical Society was held on Wednesday, February 17, 1960 at the Charlotte County Hospital with twenty members and guests present.

Raleigh Dickson Smith, M.D. of St. George, New Brunswick, introduced Lea Chapman Steeves, M.D. from Dalhousie University, Halifax, Nova Scotia. Dr. Lea Chapman Steeves spoke

on the treatment of various cardiac emergencies. A long discussion was held on the use of anti coagulants for the treatment of Coronary Thrombosis and other thrombotic disorders. This was followed by a business meeting of the Washington County Medical Society with the President, Dr. Harold G. Sears, presiding.

Twenty-eight members and guests enjoyed a turkey dinner at DeMont's Restaurant in Calais, Maine. Following this dinner a meeting of the St. Croix Medical Society was held. Edmund B. Johnston, M.D. of St. Stephen, New Brunswick, was elected president of the St. Croix Society. An active discussion over the Forand Bill and similar Canadian problems were introduced by Frederick L. Whitehead, M.D. of Frederickton, New Brunswick, Medical Director of the New Brunswick Medical Society.

KARL V. LARSON, M.D.  
*Secretary*

## YORK

February 10, 1960

The monthly meeting of the York County Medical Society was held at the Webber Hospital, Biddeford, Maine on Wednesday, February 10, 1960. Seventeen members were present.

The minutes of the last meeting were read and approved following a very fine dinner served in the hospital dining room. It was voted to elect an executive committee as follows: President, Robert F. Ficker, M.D., Vice-President, Kenneth E. Leigh, M.D., Secretary-Treasurer, Charles W. Kinghorn, M.D. and Drs. Marcel D. Ouellette and Paul S. Hill, Jr. A report of diabetic week was given by Dr. Melvin Bacon. It was voted a five dollar assessment of each member to cover expenses of diabetic week. It was also voted to request each member to write the United State Senators and Representatives in opposition to the Forand Bill.

CHARLES W. KINGHORN, M.D.  
*Secretary*

## New Members

## CUMBERLAND

Edward Blumberg, M.D., Box C, Pownal  
Edward C. Matthews, M.D., 131 Chadwick Street, Portland  
Stephen E. Monaghan, M.D., 157 Pine Street, Portland

## HANCOCK

Richard M. Barry, M.D., 50 Union Street, Ellsworth

## PENOBSCOT

Michael Barton, M.D., 200 Somerset Street, Millinocket  
Robert A. Graves, M.D., Sunset Drive, Orono (by transfer from the Aroostook County Medical Society)  
Kong Lee, M.D., 105 Center Street, Old Town

## WASHINGTON

John D. Southworth, M.D., 49 Washington Street, Calais



## Necrologies

CHARLES C. KNOWLTON, M.D.

1885-1959

Charles C. Knowlton, M.D. of Ellsworth, died November 23, 1959 following a brief illness.

Dr. Knowlton was born in Bucksport, Maine on March 3, 1885, the son of John F. and Jesse Meservey Knowlton. He was graduated from Bowdoin College in 1906, and received his medical degree from Harvard Medical School in 1911. He interned at the Hartford Hospital, Hartford, Connecticut.

In 1913 Dr. Knowlton began his practice in Ellsworth and was medical examiner for 46 years. He was head surgeon at the Hurley Hospital in Ellsworth and had served as hospital manager. He was a Senior member of the Maine Medical

Association, a past president of the Hancock County Medical Association and a member of the American Medical Association.

He belonged to Lygonia Lodge and Acadia chapter, Blauvelt Commandery and Irene chapter, OES, Ellsworth and was a member of Anah Temple Shrine of Bangor.

Surviving Dr. Knowlton are his widow, Mrs. Mary E. Knowlton; a son, John F., Boston, Massachusetts; a daughter, Mrs. Elizabeth Silsby, Bangor; two sisters, Mrs. Ethel K. Whiting, Ellsworth and Mrs. Hazel Cameron, Ottawa, Ontario; five grandchildren and several nieces.

VERDEIL OBERON WHITE, M.D.

1865-1960

Verdeil Oberon White, M.D., died in East Lebanon, Maine on February 5, 1960.

The son of James Oberon and Zerua Walker White, he was born at East Dixfield, Maine, October 13, 1865, and prepared for college at Wilton Academy. He was graduated from Bowdoin College in 1889 and Harvard University School of Medicine in 1892. He returned to his home town and practiced medicine there and in surrounding communities for over fifty years. In 1893 he was appointed a member of the Franklin County Pension Board on which he served as secretary. He was married in 1909 to Lottie Marie Smith of Solon, who died in 1944.

During World War I he served on the Franklin County Examining Board. He was an Honorary member of the Maine Medical Association and the Franklin County Medical Society, receiving the 50-year medal in 1942 and the 10-year

bar in 1952. He was also a member of the American Medical Association.

His fraternity was Delta Kappa Epsilon. For many years he was a cornetist in the East Dixfield Band and the treasurer of the East Dixfield Cemetery Association. He was an ardent Democrat, and attended the Universalist Church.

One of his patients, now eighty-four, expressed his appreciation in a letter to Dr. White received a week before his death: "Friends we've had; friends we have. But who but Dr. White could always be depended upon to go to such effort, day — night — fair or foul weather, to serve, assure and reassure, and bring us back to health. As a doctor you were our firm anchor."

Dr. White is survived by a daughter, Mrs. Waldron Morse, Springvale; and twin grandchildren, Miss Sally B. Morse and Curtis S. Morse, also of Springvale.

LUCINDA BLAKE HATCH, M.D.

1864-1960

Lucinda Blake Hatch, M.D., one of the first women doctors to practice in Maine, died February 20, 1960 in Portland, Maine after a long illness.

Dr. Hatch was born in Castine, Maine on August 7, 1864, the daughter of Mark Philip and Lucy Abbie Shaw Hatch.

She was graduated as a nurse from what is now the Maine Medical Center in 1893 and received her medical degree from

the Woman's Medical College in Philadelphia in 1905. Dr. Hatch practiced pediatrics and obstetrics in Portland for 41 years before her retirement in 1946. She was the attending physician at the Temporary Home for Women and Children for 23 years. Dr. Hatch was a member of the Maine Medical Association and a past president of the Cumberland County Medical Society and the Portland Altrusa Club.

## News and Notes

### CMG Doctor Appointed To Cancer Control Committee

Dr. Charles F. Branch of Lewiston, director of laboratories and pathologist at the Central Maine General Hospital, has been appointed chairman of the Cancer Control Committee of the National Advisory Cancer Council as of January 1, 1960, it was announced by Dr. John R. Heller, director of the National Cancer Institute.

Dr. Branch previously served on the committee from 1948 through 1953.

Dr. Branch, who is married to the former Mary Gertrude Chapman and lives at 69 Gamage Avenue, Auburn, is a member of the CMG hospital cancer committee and is an Androscoggin County medical examiner. He is rated a senior surgeon (R) with the U. S. Public Health Service.

The Cancer Control Committee meets quarterly in Washington. During his first five years of service on the committee, Dr. Branch participated in reviewing and screening research and educational grants in excess of \$60,000,000.

He is former dean of the Boston University School of Medicine.

### Maine Chapter Holds Winter Meeting

The Maine Chapter of the American Society of Clinical Hypnosis held its Winter Meeting at the Stephens House in Auburn; Donald Coulton, M.D. of Bangor presiding.

Dr. William T. Heron, Chairman of the Psychology Department of Bowdoin College spoke on "Methods of Inducing Hypnosis." Dr. Donald Coulton discussed "Application of Hypnosis in Obstetrics." Plans for a spring meeting were discussed.

### Vacancy At Togus

The Togus Veteran's Administration Center has announced a vacancy on its medical rating board. This is a professional position, involving the handling and evaluating of disability claims. The age limit is open and the work covers a regular forty-hour week. Interested physicians should contact Mr. Louis Hanley at the Administration Center.

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## Announcements

### Chemo-Therapy For Cancer

The creation of a Department of Chemo-Therapy at Waterville's Thayer Hospital starts a new phase of cancer therapy for Maine.

The chemo-therapy service, now on equal footing with surgical and medical services, is closely tied in with the Sloan Kettering Institute and Memorial Hospital of New York City for consultation and training. In the past five months, the chemo-therapy service has accepted referrals from the surgical, radiological, and medical services of the Thayer Hospital, as well as from outside hospitals.

Cooperative effort with the Children's Hospital in Boston makes possible the care and treatment of leukemias and lymphomas by the latest drugs and techniques.

Stanley C. Beckerman, M.D. heads this new department.

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### Maine Medico-Legal Society

The Maine Medico-Legal Society will hold its spring meeting at the Elmwood Hotel in Waterville, Friday, April 15, 1960. There will be a social hour starting at six followed by dinner at seven after which there will be a panel discussion on "Suicide." The panel to be made up of one county attorney,

one pathologist, one Superior Court justice, and one member from the Bureau of Criminal Investigation. Arthur Chapman will act as moderator. Following the discussion by the members of the panel, the meeting will open to questions and answers from the floor. Any question pertaining to the duties of county attorneys and medical examiners in regard to the handling of problems that arise in their everyday work may be presented to the panel for their opinion during the question and answer period.

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### Rocky Mountain Cancer Conference

The 14th annual Rocky Mountain Cancer Conference will be held in the beautiful new Denver Hilton Hotel in Denver, Colorado on July 20 and 21, 1960. Nearly 900 physicians from all over the nation are expected to attend the two-day scientific session, which is worth 10 AAGP Category I Credits.

The regional cancer-control meeting is jointly sponsored each year by the Colorado division of the American Cancer Society and the Colorado State Medical Society.

Tentative program plans call for a symposium on "Skin Cancer" on Wednesday morning, July 20 and a symposium on "Thyroid Lumps" on the following morning. Afternoon ses-



sions on both days will be devoted to papers on cancer detection and treatment by six outstanding physicians.

Symposium participants and speakers are: R. Lee Clark, Jr., M.D., Houston, Texas; A. James French, M.D., Ann Arbor, Michigan; Roy L. Kile, M.D., Cincinnati, Ohio; Wendell G. Scott, M.D., St. Louis, Missouri; H. W. Schmidt, M.D., Rochester, Minnesota; and Willard P. VanderLaan, M.D., La Jolla, California.

E. Vincent Askey, M.D., of Los Angeles, California, President-Elect of the American Medical Association and Warren H. Cole, M.D., of Chicago, Illinois, President of the American Cancer Society, will also participate in the conference.

The new \$30-million Denver Hilton Hotel, site of the Cancer Conference, will open its doors to the public on April 10 of this year. The completely air-conditioned 882 room hotel is one of the most modern in the country and newest in the extensive Hilton chain.

### **Pineland Hospital And Training Center Pownal — Maine Carl Hedin General Hospital — Red Room**

1960

April 7	Lecture — Mitosis and miosis	11:00 A.M.
April 14	Lecture — Prenatal infections	11:00 A.M.
April 21	Lecture — Middle ear infection and its treatment	11:00 A.M.
April 28	Lecture — Certain aspects of muscle diseases	11:00 A.M.
April 14	Clinicopathological Conference	10:00 A.M.

### **Courses On Management Of Mass Casualties**

Under the quota allotted to the Council on National Defense by the Army Surgeon General, spaces are open for one civilian physician for each of the following scheduled courses on the Management of Mass Casualties conducted at the Army Medical Service School, Brooke Army Medical Center, Fort Sam Houston, San Antonio, Texas: April 25 through April 29, 1960 and June 13 through June 17, 1960. Physicians who desire to attend one of these courses are requested to write directly to the Council on National Defense, American Medical Association, Chicago, Illinois.

### **Six Ophthalmology Residency Fellowships Are Announced**

Six additional Fellowships for Residents in Ophthalmology, to be awarded July 1, 1960, have been announced by the Guild of Prescription Opticians of America, Inc., through its President, William T. Heimlich, of Ithaca, New York. Applications for these Fellowships must be received by May 15, 1960.

Each Fellowship is for a total of \$1,800, payable in monthly stipends over the period of a three-year Residency. The grants are limited to Residencies at approved institutions where full three-year Residencies are offered, but residencies which begin anytime during the calendar year are eligible. Application

forms and covering information are available by writing to FELLOWSHIPS, Guild of Prescription Opticians of America, Inc., 110 East 23rd Street, New York 10, New York.

The six new Fellowships being granted represent one for each of the six areas into which the United States and Canada have been divided upon the basis of a nearly-equal number of eligible Residencies in each area.

The Guild provides all Fellowship funds as well as the program's cost of administration but the selection of the Resident Fellow is made by a Committee of Ophthalmologists in each area.

### **The American College Of Physicians**

The American College of Physicians has scheduled a meeting to be held in San Francisco, California, April 4 through April 8, 1960.

For information write to Chairman, Dr. Roberto F. Escamilla, 384 Post Street, San Francisco, California.

### **Hypnosis Workshop**

The Hypnosis Workshop sponsored by the New England Society of Clinical Hypnosis will be held April 1 and 2, 1960.

For information write to Lawrence M. Staples, D.M.D., 311 Commonwealth Avenue, Boston, Massachusetts.

### **Pediatric Refresher Courses**

A series of Short Refresher Courses will be given during early June, 1960, by the Children's Hospital of Philadelphia and by the Graduate School of Medicine, University of Pennsylvania.

1. PEDIATRIC ADVANCES, conducted by the Staff of The Children's Hospital of Philadelphia, will be held on May 30 through June 3, 1960. The curriculum will consist of clinics, demonstrations and panel discussions in selected aspects of contemporary pediatrics in which important advances are being made. Interested physicians are urged to apply early, since total attendance is limited. Registration fee will be refunded if the registrant later finds it impossible to attend. Tuition is \$115.00.
2. PRACTICAL PEDIATRIC HEMATOLOGY, on June 6 through 10, 1960, will be conducted by Irving J. Wolman, M.D., Thomas R. Boggs, Jr., M.D. and other members of the Hematology Department of the Children's Hospital of Philadelphia. The program on June 9 and 10 will be devoted to Problems of Blood Grouping, Neonatal Jaundice, Kernicterus and Exchange Transfusions. Physicians may register for these two days only, if they desire. Tuition for the full course is \$125.00 and for the last two days it is \$50.00. An illustrative collection of 25 abnormal blood and bone marrow slides has been prepared. These are available for purchase: \$10.00 for registrants; \$15.00 for non-registrants.

Inquiries should be addressed to Irving J. Wolman, M.D., Director of Post-Graduate Education, The Children's Hospital of Philadelphia, 1740 Bainbridge Street, Philadelphia 46, Pennsylvania.



# The Journal of the Maine Medical Association

Volume Fifty-One

Brunswick, Maine, April, 1960

Number 4

## Hiatal Hernia Diagnosis And Medical Management

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**If the heart were located in the head, then many  
more problems of esophageal dysfunction  
would be properly recognized . . .**

Passivity in function, proximity to the overshadowing heart, and partition from the intra-abdominal organs are poignant factors in the relegation of the esophagus to a minor role in our diagnostic and therapeutic approach to the patient. If the heart were located in the head, then many more problems of esophageal dysfunction would be properly recognized; but let us be grateful that we need not consider coronary artery disease every time a patient has a headache!

It is a fact, unfortunately, that many a person has been made a cardiac neurotic when in truth his pain was esophageal in origin. In our day when a patient comes to us with chest pain, the majority are concerned foremost with heart disease or cancer — the physician shares the concern, gets an electrocardiogram, various X-Rays, and if these are negative, may tell the patient that he has no such condition and that he has nothing to worry about. The distress persists or recurs, and then the patient wonders if he was told everything, or if the studies alone provide conclusive negative evidence, or if he is beginning to be a neurotic and should see a psychiatrist.

Now this scene has been purposely exaggerated in an effort to point up the importance of considering esophageal lesions and dysfunction in patients with chest, upper back, or upper abdominal distress. We

are more apt to consider an esophageal lesion in the case of massive upper gastro-intestinal bleeding, but even here all too often, study of the esophagus is limited to the indirect method of X-ray. Occult bleeding from the gastro-intestinal tract is often carefully studied from diaphragm to anus and even if studies are then negative, the extra-abdominal portion of the gastro-intestinal tract remains unscrutinized.

It is the intent of this paper to consider general aspects of diagnosis and treatment of the most commonly recognized esophageal lesion — that is, hiatal hernia. Actually the most common esophageal lesion is esophagitis for which there are many etiologies, but the greatest etiologic factor in chronic esophagitis is hiatal hernia with associated reflux.

### THREE TYPES OF HIATAL HERNIA

Three types of hiatal hernia occur — the least common being the congenitally short esophagus (and it is suspected that some of these are acquired with shortening of the esophagus resulting from reflux esophagitis and/or tonic spasm). The direct hiatal hernia is most common, and the third type is the paraesophageal. Many hiatal hernias are asymptomatic, and studies have shown that there is a progressively higher incidence in the sixth and seventh decades suggesting



**Sound management of the uncomplicated symptomatic case is based on two principles — regulation of the mechanical factors, and an ulcer regimen in an effort to reduce the acid-pepsin factor when reflux does occur.**

that loss of muscular tone may be a factor in production of the herniation. There is a higher incidence of other hernias in those with hiatal hernia. Moreover, in all hiatal hernia patients there is a higher incidence of ulcer and gall bladder disease, indicating that factors predisposing to vomiting may then result in hiatal weakness and subsequent herniation. The lesion is more common in females, a fact attributed to the increased intra-abdominal pressure with pregnancy and doubtless the "morning sickness" of pregnancy plays a role here. One wonders if chronic constipation, by virtue of repeated straining, may not result in a higher incidence rate.

Appreciation of these generalities facilitates awareness and therefore diagnosis. Symptoms are variable indeed and can be considered from standpoint of primary or secondary — that is, those resulting from complications of hiatal hernia.

The pain of hiatal hernia may mimic exactly that of angina, even with shoulder and arm radiation, and with such distribution one can be further influenced to diagnose coronary artery disease if, as often occurs, the pain is worse with activity (especially bending and lifting), and worse after meals. Recumbency, however, may provide an important clue, for hiatal hernia pain is more apt to occur or be aggravated by assuming the recumbent position. The differential diagnosis between hiatal hernia and coronary artery disease requires painstaking evaluation by the clinician and indeed, at times, may be impossible. Moreover, the two conditions may be coexistent and one may aggravate the other — a state of affairs well appreciated with concomitant cholecystic and coronary artery disease, but not so well appreciated with hiatal hernia.

Pyrosis in association with pain would of course suggest esophageal origin, as would also dysphagia. The former is a fairly common symptom in hiatal hernia, the latter actually rare, and when present suggests significant reflux esophagitis with spasm and/or actual stenosis. Pain may be predominantly midepigastria, may radiate through to the back and left subscapular area, is often burning, pressure-like, aching, tight, or described as a fullness.

The secondary symptoms result from complications — bleeding (acute or chronic), ulceration, perforation, or obstruction.

#### DIAGNOSIS

Positive diagnosis is made by X-ray and esophagoscopy. The X-ray diagnosis is quite reliable, assuming

the radiologist has been alerted and asked to look expressly for hiatal hernia. Even under such ideal conditions however, one negative study does not rule out the possibility anymore than one negative examination in a patient who reports intermittent inguinal swelling, would negate his having an inguinal hernia. Esophagoscopy may reveal a hiatal hernia in an instance of a negative X-ray study, but the greatest value of esophagoscopy in this state is evaluation of the complications — providing proof of source of bleeding, observing ulceration, differentiating chronic inflammatory changes as cause of stenosis from malignancy.

#### TREATMENT

Sound management of the uncomplicated symptomatic case is based on two principles — regulation of the mechanical factors, and an ulcer regimen in an effort to reduce the acid-pepsin factor when reflux does occur. Much can be accomplished by explaining to the patient the anatomic features and the nature of the mechanical factors. Specifically then, the following principles are to be adopted:

1. No large meals (six small feedings a day are preferable).
2. No tight, constrictive abdominal supports (conflict with vanity may result in compromises here).
3. Correction of obesity.
4. Avoidance of bending and lifting, especially after meals (actual demonstration of optimum way of lifting with the back straight is often worthwhile).
5. Elevation of the head of the bed on six inch blocks (preferable and better tolerated than using 2 or 3 pillows).
6. Avoiding recumbency after meals (is this why the siesta-taker is usually shown in a sitting position?).
7. Correcting constipation (preferably of course by use of increased fluid and fruit intake, but mild or bulk laxatives may indeed be indicated even at the risk of inducing "the laxative habit").

To minimize acid pepsin secretion is probably of less importance in the uncomplicated case, but should be accomplished with specific advice that the patient adhere strictly to these measures when symptoms are present — the foregoing measures should be permanently followed in any patient who has had symp-

omatic hiatal hernia. Such a regimen then would basically consist of the following:

1. Bland diet — including abstinence from coffee and alcoholic beverages.
2. Anatacid regularly — optimum time for use is one hour after meals, and attention should be paid in choice of the antacid to the existing state of the patient's bowel function and therefore by the simple expedient of proper choice of an antacid, correcting either constipation or tendency to diarrhea.
3. Antispasmodic before meals — here a combination of an antacid and antispasmodic in liquid form is often especially beneficial.

Occasionally, especially if reflux esophagitis is present, topical anesthetic agents are beneficial.

#### TREATMENT IN COMPLICATED CASES

Surgery is seldom indicated for hiatal hernia, but in general the indications are similar to those for peptic ulcer disease, that is, hemorrhage, perforation, intractability, and obstruction. With acute hemorrhage from hiatal hernia, surgery is usually indicated, although in a patient who has never been on a medical regimen, if the bleeding is minimal, a period of treatment and observation is certainly worthwhile. Chronic anemia from hiatal hernia, where both actual blood loss and interference with elaboration of intrinsic factor may be mechanisms, should have benefit of surgical repair and rather dramatic results can be anticipated.

Perforation, even with ulceration, is fortunately rare and can be a fulminating and often fatal event if mediastinitis results. Early surgery may be life saving.

Persistence of symptoms, in spite of careful adherence to the above mentioned factors, is rare, but when present, suggests incarceration or moderate to severe reflux esophagitis. Certainly in selected and good risk patients, surgical repair of the hernia is to be recommended. Phrenic nerve crush or resection has been successful in alleviating symptoms in some cases when actual repair seemed contraindicated. Overall experience suggests that in cases of hemorrhage, the end results are not so good. Though the procedure is an easy one and therefore apt to be carried out more often, it should be emphasized that at best only palliation results and even though reserved for poor risk patients, one may find himself in the uncomfortable position of subsequently facing major surgery in a previously poor risk patient who is now a poorer risk by virtue of decreased pulmonary function from the diaphragmatic paralysis.

When esophagogastric obstructive symptoms develop, either from spasm, with or without ulcer, or actual stenosis due to chronic inflammatory changes, very satisfactory results can be obtained with esophageal dila-

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tation. Esophagoscopy must always be done initially in order to evaluate the local findings (a higher incidence of esophageal cancer is reported in patients with chronic esophageal stenosis, but conversely a lower incidence of both esophageal and gastric cancer has been reported in patients with hiatal hernia). It may be necessary to initially dilate with the woven silk dilators under direct vision if the lumen is narrowed to one centimeter or less, and if such narrowing is primarily due to actual stenosis rather than spasm. Subsequently, and in most cases initially, effective dilatation can be accomplished with the Hurst dilators passed blindly. Success in their usage seems to depend on initial frequent dilatations with gradual progression to size 44 French or larger, and then intermittent usage as every three to six months or when any symptoms recur. Surgical treatment seldom becomes necessary in this group — in fact, if surgical repair is done initially, it often becomes necessary to carry out such a program of dilatation when symptoms recur postoperatively.

#### SUMMARY

It was the intent of this brief paper to review in a general way the problem of hiatal hernia from standpoint of diagnosis and treatment. Purposely, statistics and multiple references have been avoided. Percentages, even in large series, are extremely variable and after all mean little when one is dealing with an individual patient. Many case reports could be included to point up every aspect described above, but it was hoped that this type of essay might be more useful without including such case reports and thereby possibly overemphasizing certain complications; actual clinical experiences and case reports will be presented at a future date. For the reader desiring more detailed information and bibliography, several references are included.

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# Congenital Absence Of The Gallbladder

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**Agenesis of the gallbladder is believed  
to have been known to Aristotle.**

Congenital absence of the gallbladder is a rare medical entity. At the present we do not possess a clear understanding of the factors involved in the development of this condition or of the methods of determining its presence pre-operatively. Since there is no pathognomonic syndrome suggestive of gallbladder absence it is not strange that no case has ever been diagnosed prior to surgery or autopsy.

Agenesis of the gallbladder is believed to have been known to Aristotle.<sup>1</sup> Lemery<sup>2</sup> in 1701 published the first pathological report of this condition. Dixon and Lichtman<sup>3</sup> in 1945 reviewed 50 cases of this anomaly from the literature and added 10 cases from the Mayo Clinic records. To date 126 instances of this aberration have been reported. Many of the early case reports found in the literature often contained incomplete information. It is probable that many more cases were observed than reported.

## REVIEW OF EMBRYOLOGICAL DEVELOPMENT

It is desirable to review briefly the embryological development of the biliary tract in order to understand this abnormality. The floor of the future duodenum (in a 3 mm embryo) gives rise to a sacculum called the hepatic diverticulum. This entodermal outgrowth consists of a cranial and caudal portion. The former portion gives rise to the liver tissue and its bile ducts, and the latter portion becomes the gallbladder and cystic duct.

In the 5 mm embryo the gallbladder stem is a solid cylinder. By the end of the second month most of the biliary tract has been canalized. Bile is produced in fetuses 12 weeks old. It can be appreciated that should the caudal portion of the hepatic bud fail to resolve from its rudimentary phase, or the gallbladder fail to resolve from its early developmental stage, absence of the gallbladder will result. In the latter instance a dense fibrotic vestigial band of connective tissue may be observed at the site of the gallbladder.

## ETIOLOGY AND INCIDENCE

Some writers maintain that a number of cases of this anomaly are due to an inflammatory disease taking place in early fetal life. Kobacker<sup>5</sup> presents convincing evidence in the support of hereditary factors involved in some cases of this unusual condition.

Comparative anatomical studies have led some authors

to infer that gallbladder absence in man may be explainable on the basis of evolutionary change. Mentzer<sup>6</sup> noted that the gallbladder is normally absent in 36 species of herbivorous mammals, in nine species of birds and 17 species of fish. In some animals such as the elephant and giraffe the gallbladder may or may not be present. The pigeon develops an embryonal gallbladder which later disappears. These findings caused Iovetz-Tereshchenko<sup>7</sup> to ponder on whether or not man is about to lose his gallbladder, or conversely, has just acquired it.

The reported incidence of congenital absence of the gallbladder varies from 0.035% to 0.065%. Clinically it is found two to three times more frequently in women. However the sex distribution appears equal in cases of agenesis of the gallbladder identified at autopsy. It has been seen from the earliest of infancy to advanced old age.

## ASSOCIATED ANOMALIES

Congenital absence of the vesica fellea is often associated with other anomalies of the hepatobiliary system or of other parts of the body. Atresia of the extrahepatic biliary passages has been commonly observed with this condition. There also have been reports of aberrant bile ducts emptying separately into the duodenum, the stomach and the colon. Absence, atrophy and hypertrophy of one or more lobes of the liver have been noted by Latimer<sup>8</sup> in his review of this anomaly.

There may be a conjoint occurrence of imperfect pancreatic development, imperforate anus, megacolon, multiple spleens, renal abnormalities as well as congenital derangement of the ears and palate. As discussed in a previous paper,<sup>9</sup> concomitant anomalies in different parts of the body are generally more frequent than the existence of a lone malformation.

Some writers noted structural and physiological changes in the biliary ducts in patients with congenital absence of the gallbladder. Gross<sup>10</sup> is of the opinion that this anomaly is rarely associated with any compensatory dilatation of the hepatic or common ducts, and when ductal dilatation exists he attributes it to the presence of stones or strictures rather than to absence of the gallbladder. However this view is not supported by the findings of Dixon and Lichtman<sup>3</sup> and others who reported the existence of dilatation of the extrahepatic biliary tree from 31% to 40% of cases of con-

**It is not uncommon in these patients to find localized cystic dilatations of the common duct.**

genital absence of the gallbladder among the cases they reviewed.

Puestow<sup>11</sup> demonstrated in both man and animal that the extrahepatic ducts dilate after cholecystectomy. This occurs in spite of a drop in intraductal pressure. He believes that the loss of tonus of the sphincter of Oddi and the ductal dilatation are the result of a disturbed innervation of these structures produced by cholecystectomy. Whether or not the common duct dilatation noted in a good percentage of cases of agenesis of the gallbladder is explainable on a similar physiological basis as that which occurs in post-cholecystectomy patients remains a matter of conjecture for the present.

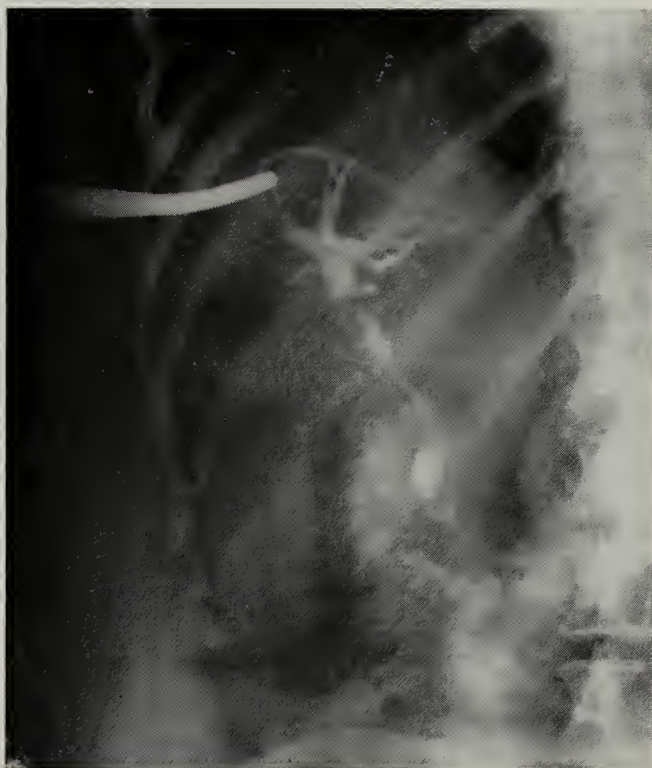
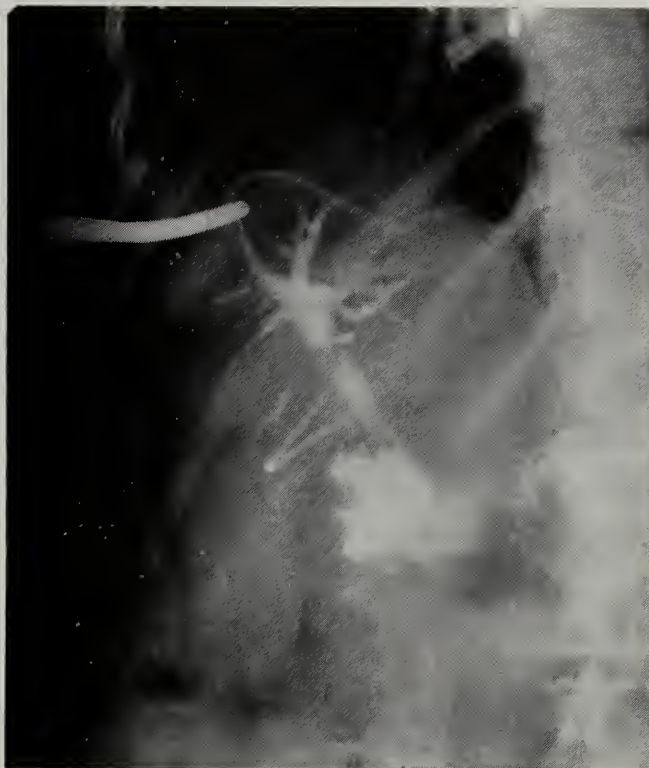
It is not uncommon in these patients to find localized cystic dilatations of the common duct. It has been postulated that these cystic dilatations are probably compensatory in nature rather than aberrantly situated gallbladders continuous with the common duct.

Common duct calculi in patients with congenital absence of the gallbladder have been reported present from 28% to 50% of cases. This is considerably higher than the 20% common duct calculi in patients with cholelithiasis, reported by Puestow,<sup>11</sup> following extensive operative and post-mortem studies. This has led to the hypothesis that the higher the incidence of ductal concretions in congenitally acholecystic patients is probably related to the absence of gallbladder functions, i.e., concentration of stored bile and decrease of bile alkalinity.

#### DIAGNOSIS

The common complaints in symptomatic patients with congenitally absent gallbladder are those usually referable to biliary disturbances often associated with cholecystic or choledochal pathology. Post-prandial symptoms of nausea, bloating, belching accompanied sometimes with intermittent colicky pain in the upper abdomen are often encountered. There have been a few reports in the literature of the so-called Charcot's intermittent hepatic fever in symptomatic cases of this anomaly, that is, fever and chills with or without jaundice. This syndrome, when present, suggests the diagnosis of cholangitis with or without choledocholithiasis.

Cholecystographic studies are of no help in establishing the diagnosis of this condition because nonvisualization of the gall-bladder, in the unsuspecting mind, conventionally presupposes a nonfunctioning rather than an absence of the organ. Nevertheless X-Ray is of great help in identifying an abnormally placed gallbladder and also in confirming its absence by means of operative or delayed cholangiograms.



Cholangiograms

The following anomalous positions of the gallbladder have been reported: Free floating,<sup>12</sup> attached to the left lobe of the liver,<sup>13</sup> retroperitoneal,<sup>14</sup> subcutaneous,<sup>15</sup> within the falciform ligament,<sup>16</sup> and partially or totally submerged within the hepatic substance.<sup>17</sup>

The last mentioned position of the gallbladder may prove to be a most aggravating situation to the surgeon



because a conclusive identification of a gallbladder so placed may defy all attempts to locate it. Visualization of a completely intrahepatically placed gallbladder by means of cholangiograms may fail if the organ is atrophic, non-functional or if the cystic duct is occluded. Needling the liver substance has been abandoned as unreliable because bile so obtained would very likely be from dilated intra-hepatic ducts.

#### TREATMENT

After the diagnosis of gallbladder absence has been made by the operator, the surgical procedure will depend upon the nature of the pathology as well as the morphological variations of the ductal system which so commonly are associated with this anomaly.

The procedure which has met with most success has been a thorough exploration of the bile ducts with "T" tube drainage of the common duct for prolonged periods of time. In cases of marked ductal dilatation, with or without cystic dilatation of the ducts, a sphincterectomy in addition to "T" tube drainage has been recommended by some surgeons. In severe cystic dilatation of the common duct a Roux-en-Y choledochojejunostomy has been successfully performed in a few reported cases.

#### CASE REPORT

A 50-year-old white woman was admitted to the hospital on July 1, 1959 with a 15 year history of dull, constant, right upper abdominal pain associated with postprandial symptoms of bloating and belching. The pain was her more immediate concern. She had been advised numerous times to have her gallbladder removed. There was no history of serious illness or previous operation. She had eight pregnancies and carried all to full term. Her mother died of a cerebral hemorrhage and her father died of unknown causes. The family history was otherwise noncontributory.

Examination showed the patient to be a well developed, well nourished middle aged woman in no apparent distress. No sign of jaundice was noted. The temperature was 98.6; pulse 74 regular and of good quality; respiration 18; blood pressure 104/78. Physical examination was essentially negative except for moderate tenderness elicited in the right upper abdomen. The liver was not thought to be enlarged, and no abdominal mass was palpated.

Electrocardiographic studies, gastro-intestinal series, barium enema, chest plate, blood and urine examination were all negative. Cholecystographic examination failed to visualize a gallbladder shadow on two different occasions, a double dose of dye was given the second time. A presumptive diagnosis of chronic calculus cholecystitis was made.

On July 3, 1959 the abdomen was entered through a right paramedian incision. Massive adhesions were found between the duodenum and the right lobe of the liver. After lysis of these adhesions the entire area was inspected thoroughly in the hope of finding a gall-

bladder. To our surprise no gallbladder was found, normally or abnormally located.

A moderately dilated structure, at first thought to be the viscus in question, was carefully dissected and identified as the common duct. This was traced proximally to an obvious bifurcation of dilated hepatic ducts which were individually followed to their respective entrance into the liver tissue. No cystic duct was noted coming off the common or hepatic ducts. The common duct was opened and thoroughly explored. Common duct instruments passed easily into the duodenum and also in each of the hepatic ducts.

Part of the common duct appeared to have a local cystic type of dilatation. No stone was found in the ducts. A "T" tube was sewed into the common duct. An incidental appendectomy was performed. The patient made an uneventful recovery and was discharged on the 12th post-operative day. The "T" tube was removed a month after the operation. A delayed cholangiogram showed no calculus present in the biliary passages and the dye passed readily into the duodenum. The patient claims relief from the pain which had been her most disturbing symptom.

#### CONCLUSION

We have reported the case of a patient with symptomatic congenital absence of the gallbladder who underwent a conventional surgical procedure with satisfactory results. In this instance the upper abdominal pain was probably due, in some measure, to the presence of adhesions.

Symptomatic agenesis of the gallbladder presents a picture which is usually associated with chronic calculus cholecystitis or choledocholithiasis. With a family history of presence of this anomaly, X-Ray examination will strengthen the suspicion of its existence when no gallbladder shadow is visualized.

A pre-operative diagnosis of this condition has never been made. It has been usually observed during an operation intended for cholelithiasis with or without choledocholithiasis.

There is an appreciably higher incidence of common duct stones in patients in whom this viscus is congenitally absent.

The reported incidence of this anomaly varies from 0.035% to 0.065%. It appears perfectly compatible with health and longevity, and it has been seen in patients of all ages.

Surgically this aberration has been reported two to three times more often in women; however, the sex distribution is about equal in necropsy findings.

Morphological and pathological changes in the extrahepatic bile ducts are often associated with this anomaly.

Most symptomatic patients with congenital absence of the gallbladder need surgical intervention. The nature and indications of the various operative procedures have been reviewed.

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# The Ophthalmologist And Rehabilitation Of The Blind

## The Program At St. Paul's Rehabilitation Center

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**... blindness does not necessarily lead  
to chronic unhappiness or psychopathology.**

The years since the last Great War have witnessed remarkable growth in the relatively young science of Physical Medicine and great advances made thereby in the rehabilitation of the physically handicapped. Blindness is a severe physical handicap and as ophthalmologists, we should be keenly aware of the future welfare and rehabilitation of the newly blinded patient. Finestone and Gold<sup>1</sup> attempted an evaluation of the role of the ophthalmologist in this regard and the following remarks are taken from their study.

The ophthalmologist, as a significant figure in the life of his patients, is assumed to provide an important source of influence upon the rehabilitation of blind persons. The way in which a patient understands and reacts to his blindness, and the efforts he makes or does not make to utilize rehabilitation services in the community reflect a number of factors, among them the relationship with his ophthalmologist. The emphasis upon rehabilitation implies certain values, which should be made explicit. It is held, first of all, that goals of independent social functioning and psychological well-being apply to blind persons as they do to sighted persons. Thus rehabilitation toward maximum activity, consistent with general physical and visual status, constitutes an objective of service for blind persons. More specifically, the performance of useful social roles by blind adults is favored. Such roles include those related to gainful employment, family responsibility and more general community activity. This point of view is in contrast with a definition of the appropriate role of blind persons as wards of the community, to be protected and supported without expectation of social contribution. The related goal of psychological well-being is based in part on the assumption that blindness does not necessarily lead to chronic unhappiness or psychopathology.

The two areas of social functioning directly impaired by visual loss are travel and visual communication, both essential to the performance of useful social roles. It

follows that a variety of educational, training and social casework services are necessary for the achievement of rehabilitative goals, and that positive influence should be directed toward the utilization of such services by blind persons.

The impact of blindness, arising both from the individual and societal reactions to it, may pose problems of a psychological nature, such as are manifested in immediate shock reaction, or lowered self-esteem on the part of the blind persons. These possible problems point to the value of awareness of their nature on the part of those who come into significant contact with blind persons. Programs of individualized services of a psychological and casework nature are called for, as well as positive influence toward their utilization, when indicated.

Other implications are suggested by consideration of blindness from the point of view of sociology and social psychology. For example, a number of analyses have identified a prevalent belief that blind persons are alike in most respects. That is, social stereotypes of "the blind" prevail. Blind persons are held to share characteristics of despair, dependency and inferiority in many ways beyond sheer visual defect. They are not expected to achieve useful social roles and make a social contribution; rather they are to be protected and supported. Their integration into the sighted world is not encouraged; rather, separation from sighted persons is the basis of service given and activity encouraged. Those who make this analysis consider that the attitudes described constitute in themselves a major handicap of blindness, if not the major handicap.

Now the question is posed whether the activity of ophthalmologists supports this social stereotype of blind persons or breaks away from it. Put in more concrete terms, do ophthalmologists convey by omission and commission that blindness is a devastating condition which leaves little possibility for a happy useful life, or do they actively intervene, possibly utilizing the services of others, in assisting the patient to make the necessary personal and social reorganization? In this

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sense, what the ophthalmologist does not do is as crucial as what he does do, for without his intercession the patient is left to the traditional normative pressures toward what is socially held to constitute blindness.

#### THE OPHTHALMOLOGIST AND REHABILITATION:

##### A SURVEY OF THE LITERATURE

In general, the only systematic discussion of the role of the ophthalmologist in relation to the social and emotional adjustment of his patients is made by Cholden<sup>2</sup>. The following paragraph sums up Cholden's philosophy of the salient role the ophthalmologist can play in the lives of his patients<sup>3</sup>.

In conclusion, I feel the ophthalmologist has the first opportunity to help the patient rebuild his life. He must do it with courage, conviction and simplicity. This task is a test of the 'healer' in the doctor, a healer despite his failure to maintain vision. He can initiate the healing process in the patient's deep psychologic wound. For the trauma of blindness must heal in stages, just as any other wound heals. If there is a defect in any of the stages, we will find poor recovery and breakdown. Thus, the doctor, even in informing his patient of blindness, makes the first, and possibly the most important step in the healing process.

It may be useful to outline some of the concepts and principles in relation to informing the patient of blindness, as presented by Cholden, even though they are best read in the context of the original article:

- (1) The patient needs to know he is blind before he can begin to accept his condition and undertake ready adjustment and rehabilitation. Hope for recovery is a major deterrent to adjustment to blindness.
- (2) The ophthalmologist's attitudes to blindness are sensed and reacted to by his patients.
- (3) An initial period of shock, followed by a period of depression may be expected. Such a period of depression, which represents a period of mourning for the lost vision, seems to be a necessary stage in the acceptance of blindness and in readjustment.
- (4) The doctor should inform his patient "clearly and irrevocably" of the fact of blindness and its cause. Hope should be encouraged, not unrealistically for recovery of vision, but for a useful and happy life, though blind.
- (5) The period of shock and depression should be accompanied by alert interest on the part of the doctor. Calm kindness, rather than overwhelming sympathy, should be encouraged on the part of those who come into contact with the patient. Medication may be used to counteract the depressive mood. The patient should be assigned judiciously chosen tasks.
- (6) Where there is a slight possibility of improvement by surgery in the future, as in some situations of detached retina, it is recommended that

doctors acquaint the patient with the fact of blindness, encourage him to live as a blind person, and make an appointment some time later for re-examination. In other words, it is considered kinder not to hold out hope when only a very slight chance exists for improvement.

- (7) Where blindness has not yet occurred, but is expected to, it is recommended that the patient be informed of the possibility of blindness, then a period of time allowed for the patient to adjust to the possibility. Blindness should then be discussed as a probability, and after another period, as a certainty. In this way, a patient may begin his readjustment to blindness even before he is blind.
- (8) Where facial disfigurement is expected or present, the doctor should discuss this directly, with consideration of possible alleviation of the condition by one means or another.
- (9) A newly blinded person should be helped to become acquainted with what other blind persons are able to do.

Others have commented critically on the negative consequences for rehabilitation which certain practices by ophthalmologists tend to produce. The principles which are implied are consistent with those explicated by Cholden. Thus a doctor writes<sup>4</sup>,

The ophthalmologist who finds he cannot bring himself to tell his patients that they are and will remain blind is too often forestalling a feeling of despair and impotence in himself when he hesitates 'to clarify his patient's visual status.' By doing so, he fails to help the patient accept his illness and learn to live with it. Thousands of physicians maintain a state of chronicity in innumerable patients for reasons similar to those mentioned.

In a survey of rehabilitation concepts and practices, a social worker writes<sup>5</sup>,

Another problem is refusal on the part of the doctor to bring to the patient an understanding of his blindness and the need to rearrange his life around the existence of this handicap. 'The latter is a particularly important area, because before an agency can effectively work with a patient, the physician needs to clarify the medical situation with the patient so that he may be psychologically ready for service.

A writer who suddenly became blind has expressed himself as follows on the subject of the timing of information to the patient<sup>6</sup>; there is only one possible rule in a case where a man must make adjustment to a new condition of living: he has to know the truth, and the whole truth and he must get it all at once. To withhold any of it from him or to make mere guesses as to his emotional capacity to absorb truth is to risk the entire structure of his adjustment.

Intensive interview with twenty-one blind users of dog guides<sup>7</sup> indicated considerable feeling among blind persons that their ophthalmologists had left them to

**The basic philosophy behind the program rests on the belief that most blinded people can be returned to an economic and emotional security which will rest not on the pity or paternalism of others.**

find their own solutions to problems of adjustment with blindness. Fairly common were the opinions that if the ophthalmologist had mentioned the possibility of dog guide or other services, that a quicker and less painful adjustment would have been made.

#### ST. PAUL'S REHABILITATION CENTER

The inspiration for the establishment of St. Paul's Rehabilitation Center was a direct result of the experience of Father Thomas Carroll when he served as a Chaplain at the Old Farms Convalescent Hospital at Avon, Connecticut at the end of World War II. Impressed with the program in operation and the results achieved in the training of over 1200 blind veterans, he saw the value of applying the same principles of treatment to civilian blinded.

St. Paul's is unique among civilian centers in that only the adventitiously blinded are taken in for training. This excludes the congenitally blinded. This policy is based on the belief that the problem of training individuals who have had sight and have now lost it, is quite different from training those who have never had sight. Most blind training centers in the country accept both types of blinded individuals.

The basic philosophy behind the program rests on the belief that most blinded people can be returned to an economic and emotional security which will rest not on the pity or paternalism of others but on a new set of hard won skills and a realistic adjustment to their handicap. Genuine rehabilitation does not seek to convince the blind man that his handicap is not serious; rather it helps him face it in all its shattering force and then helps him restore or substitute for each of the specific losses it imposes.

The approach at this Center is based on the belief that blindness is a multiple handicap, that a blinded adult loses more than his sight. He experiences such losses as the loss of ease of mobility, the loss of the techniques of daily living, the loss of social adequacy, the loss of ease in spoken and written communication, the loss of self esteem, and the loss of physical integrity and so forth. The Center program, therefore, is planned around these and other specific losses to help the trainee to face these losses and to learn what to do about them. The aim is to restore or to provide a good substitute for these losses. To accomplish its purpose, St. Paul's offers a co-ordinated program of 16 weeks of concentrated training for ten resident trainees with ten classes per day for a 5½ day week.

Never in the entire history of work for the blind had there been a full fledged rehabilitation program exclusively for newly blinded adults. Traditionally blindness has been considered such a devastating loss that there can be no real adjustment to it. The logical conclusion is segregation — setting the blind apart in a world of their own there they may live, learn, work, play and grow old together. Through his observations at Avon, Father Carroll came to believe in the opposite course; training the blind to adjust to a sighted world.

It was with this realistic approach that in 1953 he began concrete planning for St. Paul's, a center which would offer blind civilians the same opportunities for rehabilitation which the Army had offered blinded veterans at Avon<sup>8</sup>. Because such rehabilitation amounted to a reorganization of the personality, combined with the teaching of specific skills, Father Carroll chose his staff of 24 carefully. Experts came from many professions and disciplines: a consulting psychiatrist to help potential trainees make a continuing and realistic self-appraisal; a clinical psychologist for group therapy, in which trainees would be able to express and analyze together their individual feelings toward blindness, toward the staff, toward one another; an artist to help fill — with a course in the art of visualization — the visual vacuum which blindness creates; a lawyer to explain federal and state legislation regarding blindness. In addition, experienced instructors were hired to teach individual skills: the restoration of mobility at home and on the street; the reading and writing of Braille; handwriting and typing; the techniques of everyday living and home management, etc.

Finally, in 1954, St. Paul's accepted its first group of ten trainees — seven men and three women. Since then over 200 adults ranging in age from 16 to 70, most of whom were recently blinded, have gone through the course of training. The staff feels that the rehabilitation of blind children requires an altogether different set of procedures. There are two reasons for this. One is that St. Paul's program is based upon reviving, amplifying and keeping alive the blinded person's visual memory of the world. The other is that Father Carroll and his staff have found that when blindness strikes, its victim usually goes through three distinct psychological phases: a shock stage, in which the terrible reality of his blindness is borne in upon him; a depression stage, in which he realizes he will never see again and fears he can never again live a normal life; and finally, if the depression is not arrested, a stage of dependence on others or a final retreat into a segregated world. St. Paul's prefers to take trainees in the depression stage; they have faced the fact of their blindness, but their reaction has not become so extreme that the task of reorientating them is insurmountable.

The physical layout of St. Paul's Center consists of a renovated carriage house in the city of Newton, a suburb of Boston. The basement and first floor contain classrooms, kitchen and dormitory facilities for



three women trainees. The second floor has been converted into a dormitory for men. A busy schedule is provided with classes starting at 8:30 a.m. and ending at 5:30 p.m.

All candidates are examined by an ophthalmologist at the start of their training and, unless contra-indicated, each one is fitted to occluders by a well qualified optician. The staff feels strongly that whatever sight remains provides a distracting obstacle to the trainee in achieving the greatest benefits from the course. The purpose of wearing occluders is explained to the trainee and little difficulty has been encountered in obtaining their cooperation. A total of twenty-three courses are given of which some have already been listed. It may come as a surprise to many that Fencing is taught under the guidance of a professional instructor. This course is designed for sense development, physical education in posture, poise, rapid muscle memory response, discrimination and localization of sound cues and, — particularly adaptable to the use of the long cane — ready wrist motion, skill in handling a tool which extends the sense of touch, and immediate response to information gathered through it.

Although St. Paul's Center is under the sponsorship of The Catholic Guild for the Blind of the Archdiocese of Boston, the services are available to all, regardless of race, creed, or nationality. Of the 200 odd trainees to date, 30% were Protestant, 63% Catholic and 7% Jewish. Wherever desired a contact is arranged with the respective priest, minister, or rabbi.

Although trainees have come from as far west as Missouri and Illinois, the majority have been residents of Massachusetts and the other New England states.

Analysis of the causes of blindness among the trainees revealed the following:

Diabetes	36%
Glaucoma	10%
Trauma	10%
Retinitis Pigmentosa	10%
Detached Retina	10%
Uveitis	8%

Miscellaneous causes such as chorioretinopathy, malignant myopia, and optic atrophy accounted for the remainder.

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# The Technique Of Using Edge-Punched Cards In Informal Scientific Studies

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It is possible to use edge-punched cards haphazardly  
and without a great deal of experience  
and to still get effective results.

## PART ONE: TECHNIQUE

The first use of edge-punched cards is shrouded in obscurity but is thought to have been started by an Englishman named Perkins in the latter half of the nineteenth century. They were not in widespread use, however, until the principle of punch cards was adapted to machines with Hollerith cards in England and I.B.M. cards in America. This is not surprising as they are primarily a statistical tool and until recently the term statistical implied large numbers. For large scale use the edge-punched card is impractical and only machine techniques are useful. Consequently, the development of edge-punched cards lagged behind and has largely been used commercially for such applications as stock-keeping, ticketing, programming, scheduling, etc. Although it is, or rather should be, a basic scientific technique, it is hardly ever utilized by scientists in their work. This is a pity as their routine use leads to a much more systematic study of the elements that enter into an unanalyzed problem and would help to eliminate many unwarranted conclusions. This is all the more important nowadays when small sample statistics are of increasing importance and the individual investigator is expected to have some experience in their use.

It is possible to use edge-punched cards haphazardly and without a great deal of experience and to still get effective results and indeed this is the way they are ordinarily used, as the paucity of technical articles in the literature will testify. By using a direct code and being guided by common sense, the usual way of doing it, one can still draw valid conclusions from the cross-correlations obtained, but this technique leaves something to be desired from the point of view of completeness. After a good bit of miscellaneous experimentation with these cards, I feel it is possible to clarify the technique and name some of the common pitfalls which will enable an inexperienced user to be more efficient and have more confidence in his results. I propose in the first section to explain the technique and in the second to give a completely worked out example and to draw some conclusions from it.

The basic equipment needed is a supply of stock cards with holes punched around the edges, a hand punch, sorting needles, and a sorting tray. These can be bought from a commercial firm specializing in these items. The cards are available in a variety of sizes, but for beginners and all practical purposes, the tab-sized card is the one ordinarily used. A copy of Casey's book on punched cards is valuable.<sup>1</sup>

The next step is to devise a code. This is best done in two steps. First a preliminary check list is devised by writing down all the factors of a subject one is interested in or may become interested in. A certain amount of preliminary reading and thought on the subject is a necessary prerequisite for this. However, one does not ordinarily begin a punch card file on a subject unless it is of more than passing interest and one intends to study it systematically. After the preliminary code is in fairly final stage of completeness, it is carefully reviewed with an eye towards making it logical, i.e. bringing together items into mutually exclusive categories if possible, eliminating redundancies and properly defining terms. After the check list is finished the coding starts. Each item on the check list is assigned a number corresponding to a number on the card, the so-called *direct* code. Numbers on the check list may be punched into the card using a *numerical* code. The simplest such numerical code consists of a field for each digit, each field consisting of holes marked 0, 1, 2, 4, 7. By punching one or a combination of these holes and allowing as many fields as needed any number can be punched into the card. The combination of direct and numerical codes are all that is needed for most practical work with punch cards and both are quickly learned.

After the code is completed, the cards are punched, allowing one card for each case, instance, or example of whatever is being studied. This too is easily learned and surprising accuracy and speed quickly attained. When mistakes are made the hole can be repaired by pasting a sticker over the wrongly punched hole and the companies that supply the cards supply these also. However, it is just as easy to destroy the card and punch a new one.

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When the deck of cards has been punched they are ready for sorting. This is usually done in a common sense way, no attempt being made to cross sort every item by every other item. However, for the sake of completeness, it is sometimes necessary to do exactly just this, the number of such tabulations being the square of the items coded. Such exploratory maneuvers are all well and good when machine cards are used and a computer available, but the average user of edge-punched cards will find it distasteful.

Once the sorts have been made and the resulting frequencies tabulated it is necessary to have some way of knowing which ones are meaningful. Here there is no substitute for common sense unless one wishes to do a long series of chi-square tests as a criterion. Ordinarily one decides by inspection of the data as to whether they may be chance or meaningful effects and then does tests of significance on the tabulations singled out in this manner. The most proper test of significance to use on such data is the chi-square test. If independent items are being cross tabulated (the usual situation), a 2 by 2 contingency table is used for the data. In data by mutually exclusive categories, a 2 by  $x$  table is used. By setting the proportion figure in the calculator, a whole series of expected frequencies can be calculated with very little trouble. Unfortunately it is impossible to calculate in advance how large a discrepancy has to be in order to reach the 5% level of significance, but the approximate amount can quickly be learned by experience, so that the automatic handling of a number of tabulations can be screened fairly rapidly.

A short-cut technique, but by no means entirely short, which I have discovered empirically to give equivalent results as a screener, is to first run off the tabulations on the whole deck of cards. These are rank-ordered from greatest to least with a cut-off at some convenient point such as five or ten cards, thus eliminating the smallest frequencies that cannot safely be worked with statistically. After this is done, each of the frequencies is cross-tabulated in turn by all the others and a matrix of the frequencies thus obtained. If each of the frequencies is a matter of chance it should correlate perfectly with the over-all frequency first obtained; if not, it should give a low or negative correlation. A Spearman rank-order correlation is then done on each of the obtained frequencies against the over-all rank-order and the lowest one, if it is around zero or negative, is the best one to start with for further analysis. This can then be tested in the usual manner with chi-square. This process is then repeated until the matrices no longer show any lack of correlation. It can be seen that this process is analogous to the process of rotating the axes in factor analysis.

This is as far as it is usually practicable to go in the informal use of punch cards. If there are any significant relations between the different factors in the study they will have been brought out in clear relief by now. However, some mention should be made of correlations.

If two or more factors are found to be significantly related to each other, they are said to be correlated. The measure of a correlation is a correlation coefficient. We have already considered one such, the Spearman rank-order correlation coefficient, or *rho*. The correlation coefficient corresponding to our chi-square contingency tables is the *phi* coefficient, or in the case of 2 by  $x$  tables the *C* coefficient. Another type which may be used with 2 by 2 contingency tables is the *tetrachoric r*. This involves a fair amount of work but can be done quickly with access to diagrams prepared for the purpose.<sup>2</sup> The point is that if each item is correlated with every other item and the correlations arranged in a matrix, correlations of correlations can be obtained by the use of the technique of factor analysis and the main common factors at work can be determined with much more scientific precision. This is somewhat too complex for the ordinary scientific worker, but it is well to know that the potentiality is there, as most factor analytic work is done on a different type of material (measurement data), and this has tended to limit its widespread use in fields such as psychiatry and medicine where not too much measurement data exists.

## PART II: A WORKED EXAMPLE

In psychiatry and medicine one frequently sees contributions which consist almost entirely of case histories. These are very useful, but frequently misleading, as one finds when one attempts to tabulate the statistical frequency of the main factors involved. The human mind easily overlooks these discrepancies and often only general impressions are carried away from the perusal of such data. One may see relations that do not exist or miss important ones that do exist. Several interesting and important articles recently came my way on the subject of suicide.<sup>3,4</sup> The author had observed and collected a number of instances of apparent suicide in boys and young men by hanging. Whether the deaths were suicidal or accidental was frequently called into question and a good bit of practical and sentimental importance hung on the decision. It was the author's contention that the deaths were indeed suicide and he marshaled his facts well in an attempt to demonstrate this. However, on reading the articles I was plagued with a feeling that not all the cases were convincing and that probably the series was a mixture of groups. In the two articles there were a total of 43 cases, each in a fair amount of detail and I therefore decided it would be a good example to demonstrate the efficacy of punch cards.

As I read each case I jotted down factors I thought would be worth recording and at the end of the reading there were about 55 of these. These were then organized into a code (Table I). The *age* and *case number* were the only two that were coded numerically. It is important to foresee any possible way one may want to sort the cards, hence the importance of coding the case number, even though it is of no statistical im-

TABLE 1: CODE

<i>Factor</i>	<i>Code</i>	<i>Frequency</i>	<i>Factor</i>	<i>Code</i>	<i>Frequency</i>
Active	830	2	Pathologic relation		
Age	Upper left		to mother	466	2
Athletic	327	1	Place		
Called normal	487	20	Cellar	Dept.	9
Case number	Lower right	(Second series, punch rt. hand corner)	Woods	Spec.	9
Clothes change	227	1	Barn	Chain	3
Criminal tendency	480	2	Attic	Misc.	5
Criticized	810	1	Yard	Y	1
Cushioned neck	940	4	House	RLV	11
Depressed	617	3	Garage	2	2
Dull	368	3	Other deserted		
Erection	528	1	place	X	2
Frustration	710	3	Not stated	1	1
Identification	219	2	Psychic trauma	820	1
Impulse	216	14	Psychopathology	218	9
Premeditated	217	8	Played with ropes	Cr.	2
Not stated	Fin.	21	Religious	325	1
Left note	488	4	Reprimanded	717	1
Masochism	320	2	Sex play	212	2
Mirror	Calif.	1	Sex problem	825	1
Morbid			Suicide	157	2
preoccupation	861	4	Suggestion	222	2
Naked	728	6	Tied up	485	9
Neat	627	2	Time		
No motivation	361	7	A.M.	Navy	6
On leave	Sum.	4	Noon	Blue	3
Parentage			Evening	Maize	13
Living	In prac.	22	Not stated	Pink	21
Dead	364	2	Touching floor	329	11
Separated	657	7	Transvestite	229	12
Not stated	46 other	12	Unhappy	BO	2

157	212	216	217	218	219	222	227	229	320	325	327	329	361	364	368	480	485	487	488	493	528	617	627	657	710	717	728	810	820	825	830	861	940
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Figure 1



TABLE 2: FIRST FREQUENCY MATRIX

<i>Rbo</i>		<i>Called Normal</i>	<i>Impulse</i>	<i>Trans-vestite</i>	<i>Touching floor</i>	<i>Psycho-pathology</i>	<i>Tied up</i>	<i>Premeditated</i>
.543	Called normal	20	7	5	7	3	4	5
.700	Impulse	7	14	2	3	3	2	1
.043	Transvestite	5	2	12	—	4	5	3
.529	Touching floor	7	3	—	11	2	1	2
.557	Psychopathology	3	3	4	2	9	3	2
.243	Tied up	4	2	5	1	3	9	3
.243	Premeditated	5	1	3	2	2	3	8

TABLE 3: TRANSVESTITISM\*

Number Proportion	Trans-vestities 12 .2791	Expected frequency	Remainder 31 .7209	Expected frequency	d.f.	X <sup>2</sup>	Sig.
Age							
10-15	5	(6.98)	20	(18.02)			
16-19	1	(3.35)	11	( 8.65)			
20 and over	6	(1.67)	—	( 4.33)	2	18.63	.001
Time							
A.M.	1	(1.67)	5	( 4.33)			
Noon	1	( .84)	2	( 2.16)			
Evening	3	(3.63)	10	( 9.37)			
Not stated	7	(5.86)	14	(15.14)	3	.87	n.s.
Place							
Woods	6	(2.51)	3	( 6.49)			
Other	6	(9.49)	28	(24.51)	1	8.51	.01
Parentage							
Living	6	(5.86)	15	(15.14)			
Dead and separated	1	(2.51)	8	( 6.49)			
Not stated	5	(3.35)	8	( 8.65)			
Impulse	2	(3.63)	11	( 9.37)			
Premeditated	3	(2.23)	5	( 5.77)			
Not stated	7	(6.14)	15	(15.86)	2	1.55	n.s.
Psychopathology	4	(2.51)	5	( 6.49)	1	1.54	n.s.
Tied up	5	(2.51)	4	( 6.49)	1	6.57	.02
*Called normal	5	(5.58)	15	(14.42)	1		
Naked	1	(1.67)	5	( 4.33)	1		
Cushioned neck	2	(1.12)	2	( 2.88)	1		
On leave	2	(1.12)	2	( 2.88)	1		

\*Analysis not carried further because of the smallness of the frequencies and the only slight deviation from expectancy.

\*The remainder of the cards may now be used to repeat the process to eliminate any other groups that may remain. The matrix for this is shown in Table 4. The corresponding analysis of the *Separated* group is not included as it is non-contributory. The only factor that reaches statistical signifi-

cance is that of its comparison with the other factors in the same category and this can be seen to be an artifact or sampling error based on a faulty arrangement of the category as in the code non-mutually exclusive categories were mistakenly used.

TABLE 4: SECOND FREQUENCY MATRIX

<i>Rbo</i>		<i>Parents living</i>	<i>Called Normal</i>	<i>Impulse</i>	<i>Touching floor</i>	<i>Evening</i>	<i>Cellar</i>	<i>House</i>	<i>Separ- ated</i>
.807	Parents living	16	9	8	3	6	4	3	0
.959	Called normal	9	15	7	7	7	5	3	1
.889	Impulse	8	7	12	3	5	3	1	2
.848	Touching floor	3	7	3	11	5	2	3	4
.818	Evening	6	7	5	5	10	5	1	2
.615	Cellar	4	5	3	2	5	8	0	0
.564	House	3	3	1	3	1	0	7	2
.388	Separated	0	1	2	4	2	0	2	6

portance. Thus at any time the cards can be sorted into order by case number and thus checked easily with the original source. A few of the items, such as *place, time of day, parentage*, allow for mutually exclusive categories, but no attempt was made to systematize the code still farther, although this could have been done.

It is important to note whether a factor is definitely absent or just not mentioned. Nothing makes us quite so keenly aware of this as keeping a punch card record and thus points up one of the fundamental differences between our usual common sense thinking and the requirements of statistical rigor. This is one way our minds are definitely not superior to a machine. Another way is the way the cases become depersonalized by being put on cards. The original case histories were rather disturbing to me, involving as they do hanging in young boys. However as cards, they handle like any other cards and are completely abstract (Fig. 1). It can be seen that the cards used in this study are some inexpensive surplus commercial cards given me by a dealer, and are as good as any other for the purpose.

The original frequency matrix is shown in Table 2. There were 49 cross tabulations involved. As can be seen the factor transvestitism, which refers in this material to boys that were found dressed in one or more items of women's clothes, stands out as having the lowest correlation with the group as a whole, thus indicating that it is possibly an entirely separate group. The cross tabulation of this factor by the other pertinent factors and the appropriate tests of significance is shown in Table 3. From this I am forced to conclude that there is more than one group involved and that the transvestite group is not necessarily a suicide group, but perhaps only accidental. This group consists only of young adolescents and young adults. Theirs appears to be an act accompanied by transvestitic rituals

presumably similar to those they had indulged in previously and probably not anticipating death, that is real death. It does seem likely by the presence of the loose noose and the tying of the self up that masochistic hanging fantasies were a part of the ritual and that the actual hanging could have come about accidentally at the height of the orgasmic excitement. Tying one's self up and even mock hangings are not uncommon boys' games, or preoccupations, at certain stages, and it seems likely that a certain percentage might well accidentally kill themselves in the process. As a whole this group seems to have prepared themselves for a sexual orgy, but not for death. They appear to have picked the woods for this\*. Some even have attempted to cushion their necks, perhaps as a forlorn precaution against accidents!

SUMMARY

The use of edge-punched cards as a practical tool in research deserves wider use. A technique for using these in informal studies is described and an example is worked out leading to conclusions at variance to those of the original author.

\*Presumably such a boy in the city would not do so. Not knowing what part of the sample lived in the city invalidates this observation.

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# The Journal of the Maine Medical Association

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## Across The Desk

### **VA Stressing Facilities For Care Of Aging Wards**

The Veterans Administration, by its continuing experimentation in medical services for the aging and chronically ill, is establishing guidelines for the nation. The program includes day care centers for mental patients, community home care plans, improved vocational rehabilitation services and followup surveillance of veterans after they leave hospitals. Three geriatric clinics are functioning and rehabilitation services are being extended from clinics into homes. Pilot projects are under way whose aim is to enable disabled and elderly veterans to receive home treatment by professional teams.

### **Slide Talk On Poisoning Mishaps Offered By APhA**

The American Pharmaceutical Association is making available on loan a series of 29 color slides, including a script, entitled "The Problem of Accidental Poisoning in the Home." The sole charge is payment of return postage. Wyeth Laboratories is producer of the slides and script. Loan requests (which should state whether individual aluminum slide mounts or Airequipt slide magazines are desired) are to be directed to the Division of Communications, American Pharmaceutical Association, 2215 Constitution Ave., NW, Washington 7, D. C.

The (March) issue of the APhA Journal (Practical Pharmacy Edition) contains several special articles on prevention of poisoning and a guest editorial on the same topic by Dr. Leroy E. Burney, Surgeon General of U. S. Public Health Service.

### **International Health Aid Bill Approved As Modified**

The health and safety subcommittee of the House Commerce Committee has approved, after much tugging and hauling, a compromise version of the Senate-passed S. J. Res. 41. This is the international health research and training plan conceived by Senate liberals but, in its original form, opposed by the Administration. As redrafted by the Roberts subcommittee, however, the program probably will draw White House and Senate endorsement, if not AMA's (which testified in favor last year but reneged at the Dallas meeting in December). The "clean" bill introduced (H. J. Res. 649) by Rep. Kenneth Roberts (D., Ala.) has the following provisions:

Authorizes \$10 million a year (instead of \$50 million) in appropriated funds but permits the government to use unlimited amounts of foreign currencies which are made available to the U. S. in return for agricultural products. This is the crux of the compromise, which was forecast by Washington Report on the Medical Sciences No. 657 last January.

Gives the State Department a more prominent role, yet authorizes the President to delegate such powers as he sees fit to the Department of HEW.

Withholds authority for the establishment of a special unit in the National Institutes of Health (as S. J. Res. 41 did) but permits HEW, in its execution of delegated responsibilities, to create "an appropriate administrative office or unit."

In general, clarifies and widens authority of the U. S. to finance research projects and fellowships in foreign

countries, promote the interchange of experts and make loans or grants for buying equipment.

### Government Aid Survey

In the latter of March at a strategically chosen time, there was delivered to many Washington desks, a report giving the results of national and local surveys on public attitudes toward governmental participation in medical care. It came from the University of Michigan campus and the senior author was a faculty member, Wilbur J. Cohen, an ardent supporter of the national health insurance in the Roosevelt and Truman Administrations, in which he served as a social security official.

The study purports to show that the majority of Americans indorse government aid in the provision of low cost medical care. This sentiment is especially high among Democrats but it accounts for a thin majority even among Republicans, according to the report.

### Medicare Figures Given To Senate Investigators

Detailed information on Medicare operations from their inception in December, 1956 to the close of 1959 were supplied last week to the Senate committee considering Defense Department appropriations for the next fiscal year. For continuing this program in 1960-61, \$71.6 million is being asked. The following are some highlights from the testimony given to the investigators by Brigadier General Bloyd L. Wergeland, Medicare chief:

About 9 per cent of the claims processed by Medicare in a given month represent the care completed during that month; 32 per cent are for care given in the preceding two months; 65 per cent, three months; 80 per cent, four months. Claims are still being received, and paid, for care completed nearly three years ago.

In the program's first three years (through December, 1959), \$212.6 million was expended by Medicare: 49.3 per cent for physicians' claims, 48.5 per cent for hospital care, and 2.2 per cent for administrative costs. Air Force dependents accounted for \$84.3 million; Navy for \$68.2 million; Army, \$55.6 million, and Public Health Service the remainder.

In the fiscal year beginning next July 1, dependent strength will be an estimated 3,738,700, an increase of nearly 100,000 over the current year. The average daily patient load in civilian hospitals will be around 3,530 compared with 3,219 this year.

The cost per patient day in civilian facilities averages \$52.65 this year and it will rise to \$55.30 in the next fiscal year, according to budget calculations. Last year the figure was \$50.06.

### Medical Care Payments For December Reported

The latest monthly report by the Social Security Ad-

ministration lists state-by-state expenditures for medical care vendor payments in December, 1959. They totaled about \$40 million in this one month, with more than one-half (\$23.3 million) being allocated for medical and hospital services to social security beneficiaries receiving old age aid.

The remainder was distributed as follows: Dependent children, \$5.2 million; blind, \$659,771; permanently and totally disabled, \$3.9 million; and persons on general assistance, or relief, \$8.3 million.

### Survey Report Issued On Medical History-Taking

The latest published report of the U. S. National Health Survey is a 27-page presentation of the findings of a special study that was conducted by the University of Michigan Survey Research Center. As an experiment in methodology, its objectives were to develop a medical history questionnaire, ascertain whether non-medical trained interviewers could do as well as nurses in eliciting information and generally to improve fact-finding techniques in large scale health surveys.

Some of the study's conclusions: It is feasible to draft a standard set of questions and probes to be used with standardized techniques in getting information about symptoms . . . people are willing to discuss symptoms and illnesses with nurses or nonmedical trained interviewers . . . there was some evidence that trained laymen obtained greater frequency of responses to symptoms than did nurses!

### Details Told On Plans Covering U. S. Workers

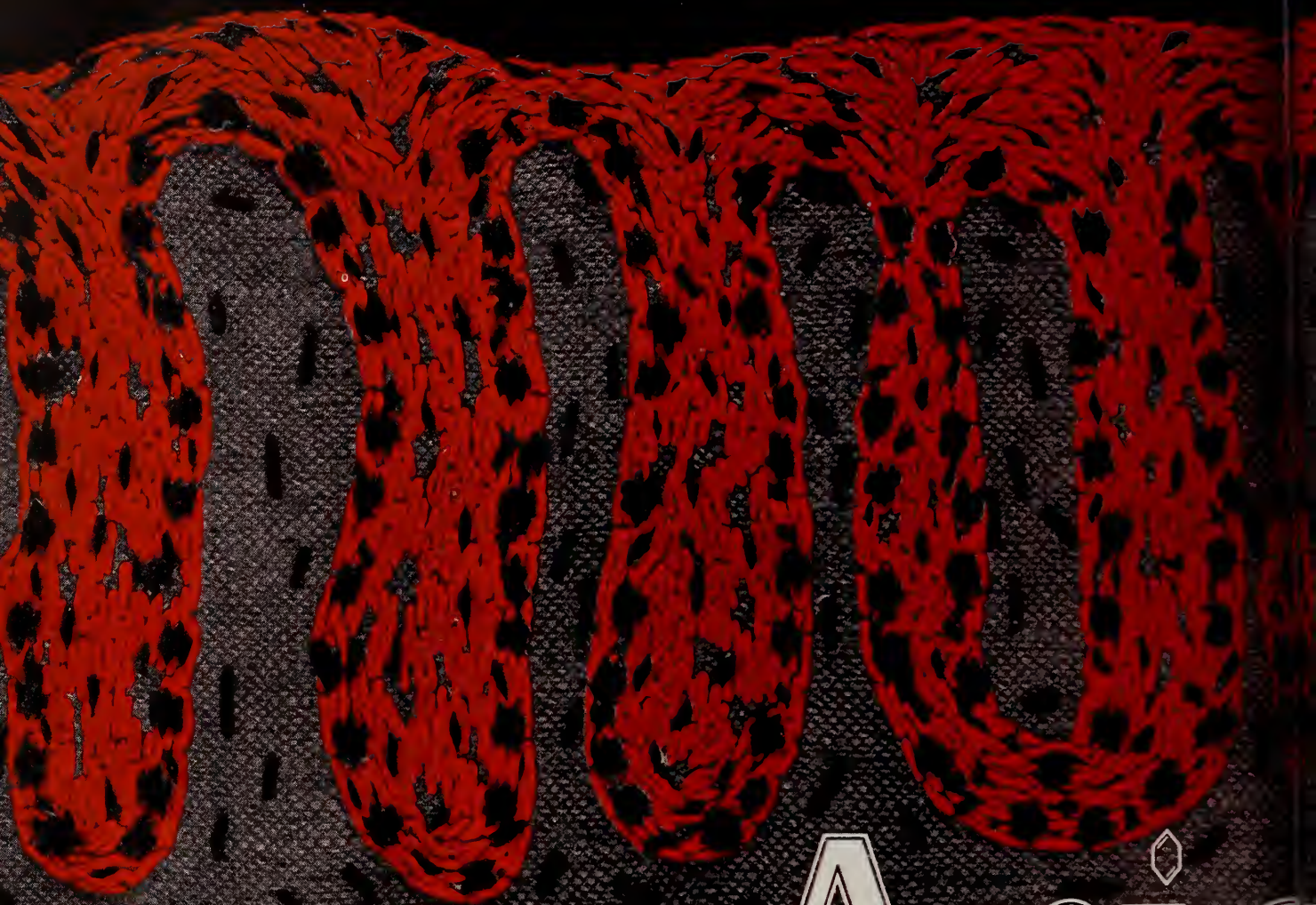
The Civil Service Commission is ready to sign contracts for government-wide indemnity and service benefit plans, 90 days prior to the scheduled inauguration of the Federal employee health insurance program. Particulars were disclosed by the three Commission members and staff experts. Aetna Life Insurance Company will administer the indemnity plan and Blue Cross-Blue Shield will be the contractual agent for the service benefit program. Between them, these two plans are expected to cover a large majority of the 4 million employees and dependents who will be enrolled. In the minority will be those workers who prefer the consumer-controlled, clinic service type affiliation, membership in union-sponsored health insurance plans or other eligible groups.

The Federal contribution will be \$2.82 monthly for single employees, \$6.76 for personnel with families, \$3.94 for the female worker whose family includes a non-dependent husband. The employee's contribution will be, respectively, \$3.94, \$10.70, and \$13.52 for *high* option coverage under the *indemnity* benefit plan. For *low* option coverage, monthly payment of employees will be \$2.82, \$6.76 and \$9.58, in the same order.

In the *service* benefit contract, participation in the



in allergic and inflammatory skin disorders (including psoriasis)

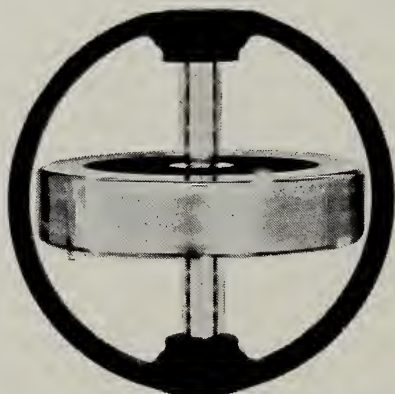


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- **minimal disturbance**  
of the patient's  
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Triamcinolone LEDERLE

*At the recommended antiallergic and anti-inflammatory dosage levels, ARISTOCORT means:*

- freedom from salt and water retention
- virtual freedom from potassium depletion
- negligible calcium depletion
- euphoria and depression rare
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- low incidence of osteoporosis with compression fracture

**Precautions:** With ARISTOCORT all traditional precautions to corticosteroid therapy should be observed. Dosage should always be carefully adjusted to the smallest amount which will suppress symptoms.

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Diacetate Parenteral (for intra-articular and intrasynovial injection). Vials of 5 cc. (25 mg./cc.).

**References:** 1. Feinberg, S. M.; Feinberg, A. R., and Fisherman, E. W.: *J.A.M.A.* 167:58 (May 3) 1958. 2. Epstein, J. I., and Sherwood, H.: *Conn. Med.* 22:822 (Dec.) 1958. 3. Friedlaender, S., and Friedlaender, A. S.: *Antibiotic Med. & Clin. Ther.* 5:315 (May) 1958. 4. Segal, M. S., and Duvenci, J.: *Bull. Tufts N.E. Medical Center* 4:71 (April-June) 1958. 5. Segal, M. S.: Report to the A.M.A. Council on Drugs, *J.A.M.A.* 169:1063 (March 7) 1958. 6. Hartung, E. F.: *J. Florida Acad. Gen. Practice* 8:18, 1957. 7. Rein, C. R.; Fleischwager, R., and Rosenthal, A. L.: *J.A.M.A.* 165:1821 (Dec. 7) 1957. 8. McGavack, T. H.: *Clin. Med.* (June) 1959. 9. Freyberg, R. H.; Berntsen, C. A., and Hellman, L.: *Arthritis & Rheumatism* 1:215 (June) 1958. 10. Hartung, E. F.: *J.A.M.A.* 167:973 (June 21) 1958. 11. Zuckner, J.; Ramsey, R. H.; Caciolo, C., and Gantner, G. E.: *Ann. Rheumat. Dis.* 17:398 (Dec.) 1958. 12. Appel, B.; Tye, M. J., and Leibsohn, E.: *Antibiotic Med. & Clin. Ther.* 5:716 (Dec.) 1958. 13. Kalz, F.: *Canad. M.A.J.* 79:400 (Sept.) 1958. 14. Mullins, J. F., and Wilson, C. J.: *Texas J. Med.* 54:648 (Sept.) 1958. 15. Shelley, W. B.; Harun, J. S., and Pillsbury, D. M.: *J.A.M.A.* 167:959 (June 21) 1958. 16. DuBois, E. L.: *J.A.M.A.* 167:1590 (July 26) 1958. 17. McGavack, T. H.; Kao, K. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958. 18. Council on Drugs: *J.A.M.A.* 169:257 (January) 1959.



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high option plan will cost a total of \$7.39 monthly for single persons, \$19.37 for family; the low option plan, \$5.64 and \$14.21. Federal contribution will be the same as that shown in the paragraph above. For the *high* option plan, the family income ceiling is fixed at \$6,000, for full coverage of hospital, medical and surgical benefits; for the low option plan, the ceiling is \$5,500.

Indemnity type plan has co-insurance and deductible features. In maternity cases, obstetrical fees of \$60 to \$90 are allowed for normal deliveries. In the service benefit plan, deductibles are \$100 and \$200, depending on the type of coverage chosen, and the benefits up to \$20,000 are allowed on a co-insurance basis.

### Popular Sedative Causes Profound Judgment Errors

A widely used barbiturate produces errors of judgment when taken in average doses, two Harvard researchers said in the (April 9) *Journal of the American Medical Association*.

Gene M. Smith, Ph.D., and Henry K. Beecher, M.D., said "the striking judgment distortion produced by the barbiturate is particularly important from the practical standpoint.

"One can only wonder how many accidents occurring each year on the highway, in industry, in the home, and elsewhere are due in part to impairment produced by barbiturates, analeptics (stimulants), tranquilizers, and other drugs given to ambulant patients," they said.

"The widespread use of these medicaments by persons whose decisions, judgments, and behavior affect their own welfare and the welfare of others makes further quantitative assessment of the mental and behavioral effects of these agents a matter of practical importance."

The researchers studied the effects of a typical barbiturate, secobarbital, and amphetamine, a stimulant, on 15 college men swimming time trials alone and in groups of three. Each swimmer was "a highly trained athlete in midseason form who was skilled in estimating his performance time," they said.

Nevertheless, they found that swimmers given secobarbital evaluated their speed in solo trials as significantly better than usual when their performances actually were significantly slower.

All the data, they said, "clearly demonstrate that a profound impairment of judgment was produced under the solo condition; most of the data suggest that a moderate impairment of judgment was produced when the subjects swam in groups of three."

The effects of amphetamine on judgment were not conclusive, they said. However, when the subjects given amphetamine swam alone, most of them failed to recognize the improvement in their performance produced by the drug or failed to appreciate its extent.

Previous studies have shown that barbiturates and

other drugs alter performance on psychomotor and mental tests, they pointed out.

Both men are associated with the Anaesthesia Laboratory of the Harvard Medical School at the Massachusetts General Hospital, Boston.

### FHA Rules Fixed For Nursing Home Loans

The Federal Housing Administration has adopted regulations dealing with mortgage insurance loans to proprietary nursing homes and field offices have been instructed to begin processing applications. Of this new program, FHA Commissioner Julian H. Zimmerman said:

"The program represents many hours of thorough study and planning. It is aimed at effecting the rehabilitation of sound existing nursing homes as well as the construction of new ones."

A nursing (or convalescent) home shall be eligible for aid if it is licensed or regulated by the state or municipality, and devoted to the care of persons "who are not acutely ill and not in need of hospital care, but who require skilled nursing care and related medical services."

Copies of the new regulations are obtainable at any of the 75 FHA field offices or from Washington headquarters office.

### Red Cross Reports On 1958-59 Blood Program

For an outlay of \$12.7 million, the Red Cross collected 2,367,500 pints of blood in the fiscal year ended June 30, 1959, according to their latest annual report. Participating hospitals totaled 3,900, two thirds of which depended exclusively upon the Red Cross for supplies of whole blood. In the 54-region blood collecting network, the biggest producer — the region comprising Los Angeles and Orange Counties, California — came through with 158,117 pints. Second was the New York City region, 131,698 pints.

### 1st Issue Index Medicus In New Format Published

Vol. No. 1 of Index Medicus is off the press. This monthly publication of the National Library of Medicine will index the world periodical literature of medicine. It supersedes NLM's Current List of Medical Literature and AMA's former Quarterly Cumulative Index Medicus. This year the new index will cover between 110,000 and 120,000 periodical articles and coverage will be expanded to 150,000 by 1963. The subscription rate (via Superintendent of Documents, Washington 25, D. C.) is \$20 a year, and \$25 foreign.

"The new publication will provide the medical professions with a truly current bibliographic tool, broad in scope and conveniently arranged," said Seymour I. Taine, chief of the Library's index division. "Longer

range plans for the utilization of more sophisticated techniques and equipment can now be projected."

### **Committee Issues Report On Disability Insurance**

Directly related to the Forand controversy is the administration and problems of the Department of HEW's complex social security disability insurance program. Released in the middle of March by the House Ways and Means Committee was a painstaking report on this subject by a subcommittee which conducted public hearings last November (Washington Report on the Medical Sciences No. 646). Here are a few of its findings and conclusions:

Too much is still unknown as to whether the individual or the government should bear the cost of medical examinations in disability determinations.

The Department of HEW is asked to take the necessary steps to project "a better picture of the impact of rehabilitation on the disability program."

Medical standards should be developed in an "evolutionary manner."

### **Tax Free!**

A ruling by the Internal Revenue Service gives income excludability to Russell Sage Foundation stipends for residencies "relevant to professional practice in health or welfare."

### **21 Medical Sleuths For Air Crashes Appointed**

The Federal Aviation agency has appointed 21 prominent specialists in forensic pathology to serve on a panel of experts whose services would be drafted for medical investigations of plane crashes and their cause. They are: Drs. Milton Helpern, B. C. Willard, Charles P. Larson, Geoffrey Mann, Robert Hausman, Frederick Bornstein, Vernie A. Stembridge, Joseph W. Spelman, Leo Lowbeer, Lester Adelson, Angelo Lapi, Theodore J. Curphey, Joseph H. Davis, Donald K. Merkeley, Joseph E. Campbell, William J. Reals, Nicholas Chetta, IRVING I. GOODOF, Russell S. Fisher, Richard Ford, and Edward S. Zawadski. They will assemble in Washington, D. C. on April 19 for a three-day indoctrination period.

### **Retirement Pensions**

In a Boston address, Senator Leverett Saltonstall (R., Mass.) expressed the hope that Congress will pass the Keogh bill (HR 10) as an encouragement to self-employed professional and business persons to establish retirement programs for themselves. In a Columbus, Ohio, speech, Glendon E. Johnson, associate counsel of the American Life Convention, predicted that Congress will approve a compromise bearing Treasury-supported amendments. Besides imposing greater fiscal

limitations, the modified plan will require employers to extend comparable retirement benefits to employees, according to his forecast. Note: The Senate Finance Committee's action on the House-passed Keogh bill is still unscheduled.

### **Polyunsaturated Fatty Acids Can Reduce Cholesterol!**

The substitution of fats or oils containing polyunsaturated fatty acids for saturated fats or oils is the best way to reduce cholesterol in the blood system on the basis of present information.

Dr. Herbert Pollack, assistant professor of clinical medicine, Postgraduate Medical School, discussed cholesterol in a signed editorial directed to fellow physicians in the (March 12) *Journal of the American Medical Association*.

"It is accepted generally that specific alteration in the diet will decrease the concentration of cholesterol in the blood," Dr. Pollack said. "The most effective results to date have been achieved by increasing consumption of polyunsaturated fatty acids, particularly linoleic acid."

At one time, he said, a "low fat, low cholesterol" type of diet was sometimes advocated as a means of lowering the cholesterol level. But he said it is now generally believed that dietary cholesterol, within the limits of the average mixed diet, plays little part in raising the cholesterol concentration in the blood.

Dr. Pollack said confusion has been created because "some of the largest vegetable oil processors in the United States have implied in advertisements that the cholesterol level can be lowered by adding polyunsaturated fatty acids to the diet."

However, he said, a person would benefit little by consuming more polyunsaturated fatty acids if he did not at the same time reduce his intake of other fats. In other words, he said, the polyunsaturated fatty acids "must replace, rather than supplement some of the saturated fats and oils already in the diet."

Claims for various hydrogenated vegetable oils must be assessed with the knowledge that a product loses most or all of its polyunsaturated qualities when it is hydrogenated, Dr. Pollack said. Products are hydrogenated so they can be stored for longer periods without spoiling.

"Some manufacturers cite the 'iodine number' of a fat or oil as evidence of the unsaturated fatty acid content of their product," he continued.

"This number is not a reliable indicator of therapeutic value because it measures monounsaturated and polyunsaturated fatty-acid content at the same time. A monounsaturated acid . . . does not affect the cholesterol concentration of the blood.

"Contrary to statements sometimes made, not all animal fats are low in the polyunsaturated fatty acid content nor are all vegetable oils high in this quality.



The depot fat of chicken is an excellent source of linoleic acid.

"Many vegetable fats and oils contain appreciable amounts of the polyunsaturated fatty acids and if used properly will lower the blood cholesterol level."

### **Malignant Tumors Number Two Killer Of Children**

Malignant tumors cause one out of every eight or nine child deaths in this country, according to an article in the (March 12) *Journal of the American Medical Association*.

"The importance of malignancy in childhood is growing," the article said. "... malignancy now represents the second most frequent cause of death, having been third in 1945."

Dr. W. B. Kiesewetter, surgeon-in-chief, Children's Hospital of Pittsburgh, and Dr. Edward J. Mason, teaching fellow in surgery, University of Pittsburgh School of Medicine, reported on 404 cases of malignant disease in children between 1 and 14 years of age.

The cases represented more than one per cent of total hospital admissions during a six and one-half year period.

It is significant, they wrote, that while there has been a marked decrease in over-all mortality in the decade 1945-55, there has been an increase in the incidence of malignant neoplasms and congenital malformations. Correspondingly, they said, there has been a relative increase in the importance of malignant neoplasms in the over-all death rate.

The two surgeons said their study showed that "a child is much more vulnerable to malignant disease under the age of 5 years than thereafter."

"Negroid and sinoid children appear to be far less vulnerable to malignancy than caucasoid," they said.

"In spite of the high percentage of negroid children seen as outpatients in the hospital, 391 of the 404 total tumors were in caucasoid children.

"In this series, there was an approximate three-to-two predominance of males over females, with malignant disease being found in 230 males as against 174 females."

Leukemia and lymphoma were the major killers, they reported, accounting for 42 per cent of the deaths.

"Of the total group of 404, 317 were dead at the time of follow-up survey, an over-all mortality of 80 per cent," they said. "... 75 per cent of those who died from their malignant disease were dead at the end of their first 12 months."

### **PHS Radiation Study To Be Done In New Mexico**

Surgeon General Leroy E. Burney announced that the Public Health Service will launch a most comprehensive investigation of the effects of environmental

radiation. The area selected is San Juan County, New Mexico. Dr. Howard McMartin will be the medical officer in charge. The county health department and medical society have pledged their cooperation, according to Dr. Burney. San Juan County is a major uranium producer.

"Additional studies will be undertaken where large population groups have been exposed for long periods of time to somewhat higher than average levels of environmental radioactivity," said Dr. Burney.

### **Statistics Prove Sex Hormones Aid Victims Of Breast Cancer**

The first statistical proof that sex hormones can prolong the life of women with disseminated breast cancer was published in the (March 19) *Journal of the American Medical Association*.

An exhaustive 12-year study also showed that female hormones were "inherently superior" to male hormones in treating cancer that has spread from the breast. At the same time the findings disproved a number of commonly held beliefs concerning hormonal therapy.

"The relative effectiveness of these two classes of sex steroids has been determined in physiologically homogeneous groups of such size as to permit statistically valid conclusions for the first time," according to Dr. Ian Macdonald, Los Angeles, chairman of the A.M.A. Subcommittee on Breast and Genital Cancer.

The Journal article in the final report on the study initiated in 1947 under the sponsorship of the A.M.A. Clinical data on 944 women with disseminated mammary carcinoma was pooled from a cross-section of investigators in the United States and Canada. The purpose was to clarify the use of sex hormones which came into use in the '40s.

### **LSD Helps Hopeless Mental Patients**

LSD-25, a drug capable of bringing back childhood memories with the sharpness of a 3-D movie, is helping fight mental illness in persons formerly considered hopeless, two psychiatrists said.

Drs. Arthur L. Chandler and Mortimer A. Hartman of the Psychiatric Institute of Beverly Hills, California, reported on the use of the drug (Lysergic Acid Diethylamide) in 110 patients in the (March) *Archives of General Psychiatry*.

"With LSD as an aid, it has been possible to 'reach' and work with patients who are otherwise unresponsive to psychotherapy," they said.

"... there were a number of cases in which previous therapy, sometimes with several different therapists, had produced little or no improvement but in which introduction of LSD-25 effected a real break-through, followed by continued therapeutic improvement.

"In the study are several patients who had had as

much as six years of previous analytic therapy, with small benefit, and who, after 20 to 40 LSD sessions, either were discharged as markedly improved or appeared to be well on their way to the resolution of their basic problems."

They also said "because initial therapeutic gains can occur in a dramatic manner and, after a shorter period than is the case with psychotherapy in general, some patients have sought treatment and benefited who would never have accepted the long-term schedule required in psychoanalytic or most other forms of psychotherapy."

The 110 patients studied included psychoneurotics and those with personality disorders, trait disturbances, and other problems, such as addiction to alcohol and/or narcotics. There were 62 men and 48 women ranging in age from 15 to 62.

A total of 88 showed improvement ranging from "slight" to "outstanding" after an average of six sessions with LSD. The group that showed the most progress were the maniac-depressives, those who are alternately highly elated and deeply depressed.

"An encouraging result is the promising progress of those with addictions. Most of these patients were alcoholic problems, but seven of these also had a recent history of drug addiction. The fact that this group did as well as it did suggests the possibility that LSD-25 may be a valuable therapeutic aid in work with this most difficult group."

Drs. Chandler and Hartman said the drug produces visual illusions, but these could not be properly defined as hallucinations.

"The most obvious difference between the imagery and fantasy which occurs with LSD-25 and hallucination is the factor of insight," they said. "Under LSD-25 the patients know that they are merely experiencing a 'waking dream' or remembering some experience from the past. They do not believe that it is actually happening."

The psychiatrists also described how the drug unlocks memories stored in the unconscious.

"It is very common for early childhood memories that have been repressed or forgotten to emerge, usually with great clarity of recall," they said.

"Scenes may be pictured with great vividness of color and other detail, and the patient feels himself to be back in the situation and experiences the affects in all the original intensity. Some patients describe it by saying that it is as though a 3-D film tape were being run off. . . .

"Several patients have checked with parents concerning incidents or certain details, such as household furnishings, with striking confirmation, especially when it is considered that some of the memories dated back as early as the first year of life."

The drug's ability to bring back early memories in

nearly all patients proved in some to be of "tremendous therapeutic benefit," they concluded.

### **Drug For Diabetics Aids Victims Of Parkinson's Disease**

Tolbutamide, a drug customarily prescribed only for diabetics, has been used with surprisingly good results in the treatment of Parkinson's disease by two physicians.

Writing in the (March 26) *Journal of the American Medical Association*, Drs. Edwin W. Gates, Niagara Falls, New York, and Irving Hyman, Buffalo, New York, told how the drug had helped 15 persons with Parkinson's disease.

The disease attacks the nervous system causing a stooped posture, stiffness and slowness of movement, rigidity of facial expression, and a tremor of the limbs.

"In some patients there was a decrease in tremor, and in others the most marked effect was the lessening of the rigidity," they said. "Most of the patients given tolbutamide were benefited to the extent that they required less care and could perform many more daily living tasks."

The two physicians began using the drug to treat patients with Parkinson's disease after one of them noted a marked decrease in the tremor of the hands and fingers of a 57-year-old diabetic given tolbutamide in 1958.

There is no known cure for Parkinson's disease. Antispasmodic drugs are the usual treatment to alleviate the symptoms. Tolbutamide is a synthetic hypoglycemic agent which lowers the blood sugar level.

The physicians said the significance of their findings is not clearly understood and further research is needed.

### **New Vaccine Provides Broader Protection Against Flu**

A new influenza vaccine designed to provide broader protection against future virus variants was described in the (March 19) *Journal of the American Medical Association*.

Keith E. Jensen, Ph.D., Terre Haute, Indiana, reported on a study conducted among institutionalized children and adults to determine the merits of a new vaccine formula containing six strains of flu viruses compared with the current four-strain standard vaccine.

"The data obtained from our study indicate that vaccines containing six strains are efficacious and, further, that a new formula for a vaccine which includes . . . each of these strains would be as safe but more potent than the current four-strain . . . standard vaccine," he said.

"Its use would cause, particularly in children, formation of immunological barriers of greater breadth against new influenza-virus variants."



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THE 107th ANNUAL SESSION  
of the  
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at  
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# From the Secretary's Notebook

## Summary Of Proceedings, Interim Meeting, M.M.A. House Of Delegates, April 3, 1960 Brunswick, Maine

1. Called to Order at 2:00 P.M. by Carl E. Richards, M.D., Council Chairman, in the absence of the President-elect, Wilson H. McWethy, M.D., who was ill.
2. Roll Call — There was a total attendance of 58 including 35 delegates, 6 alternates, 11 councilors, 4 committee chairmen and two guests. (Each county society was represented and thus has a member to answer questions pertaining to the proceedings at this Interim Meeting before the annual session in June).
3. Announcement of the following members appointed by the President-elect to serve on the Nominating Committee in accordance with the By-Laws — Chapter IV, Section 5:
  - 1st District — Robinson L. Bidwell, M.D., Portland
  - 2nd District — Paul J. B. Fortier, M.D., Lewiston
  - 3rd District — Ralph C. Powell, M.D., Damariscotta
  - 4th District — Allan J. Stinchfield, M.D., Augusta, Chairman
  - 5th District — Karl V. Larson, M.D., East Machias
  - 6th District — Thomas G. Harvey, M.D., Caribou

The report of the Nominating Committee shall be the first Order of Business at the Second Meeting of the House of Delegates on Sunday, June 19 at 3:30 P.M. at The Samoset, Rockland.

4. Presentation of Income and Expenditures for 1959-1960 and proposed budget for 1960-1961 as drawn up by the Council.\*  
The proposed budget will be presented for discussion at the first meeting of the House of Delegates in June (Sunday, June 19 at 10:00 A.M.) and will be referred to a reference committee — final action to take place at the second meeting of the House.
5. Philip P. Thompson, Jr., M.D., Delegate to A.M.A., stressed the importance of members of the medical profession doing everything possible to interest the youth of the State toward the medical profession as a career. He suggested that each county society have a Medical Recruitment

Committee. He also discussed the problem of the Aging and proposed the following essentials for a program:

- a) Regular physical examinations in the doctor's office to prevent complications of aging.
- b) Provision for medical service in the home rather than in the hospital.
- c) Decent, clean, attractive nursing homes with adequate facilities.
- d) Chronic Hospitals that we can be proud of for the hopelessly ill or mentally disturbed.
- e) Temporary housing facilities for convalescents who will get back to work or to their homes.
- f) That hospitals include — emergency care units, acute care units and convalescent units.

He stated that it is up to the medical profession to take the lead in this problem and proposed that the county societies have a committee appointed to offer advice wherever needed.

6. Investment Committee. Paul S. Hill, Jr., M.D., Chairman of this committee, stated that the committee had met and studied the financial setup of the Association. Their recommendation that the Canal National Bank Trust Department be appointed custodian of the Association's investments and savings in an effort to provide more income was approved by the Council at a meeting on February 28, 1960. Their recommendation that any surplus funds in the checking account at the end of the year be invested in short term notes was also approved by the Council. The cost of this service by the Canal Bank will be approximately \$247.00 a year. The committee also recommended that the fiscal year be changed from June 1-May 31 to the Calendar year (January 1 to December 31) effective January 1, 1961. This recommendation was approved by the Council on 2/28/60.
7. Health Insurance Committee re: Tentative Blue Shield rates for suggested optional benefits. Presented by Edward K. Morse, M.D. in the absence of the Committee Chairman, Francis A. Winchenbach, M.D.

\*Copy to the Councilors, Delegates (including the county secretaries) and Alternates with copy of this summary.





DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

# Classification Of Public Assistance Recipients In Nursing And Rest Homes\*

C. OWEN POLLARD\*\*

When a Public Assistance recipient is residing in a Licensed Nursing Home, Rest Home or Chronic Hospital and is found to require skilled nursing care or care that requires the supervision of a skilled nurse, a direct payment for care can be made to these facilities. There are two standard rates of payment: (1) a rate of \$165 for nursing care and (2) a rate of \$130 per month for rest care. The rate at which the Nursing Home or Rest Home will be reimbursed depends on two factors: (1) the type of care (rest or nursing care) that the individual is determined to be in need of, and (2) the type of care that the facility in which the individual resides is licensed to provide.

Maine statutes do not define nursing functions so for the purpose of Public Assistance, skilled nursing is considered to be professional and practical nursing as defined in the American Journal of Nursing, Volume 55, December, 1955 as follows:

1. The practice of professional nursing means the performance for compensation of any act in the observation, care and counsel of the ill, injured or infirm, or in the maintenance of health or prevention of illness of others, or in the supervision and teaching of other personnel, or the administration of medications and treatments as prescribed by a licensed physician or dentist; requiring substantial specialized judgment in skill and based on knowledge and application of the principles of biological, physical, and social science.

2. The practice of practical nursing means the performance for compensation of selected acts in the care of the ill, injured or infirm under the direction of a registered professional nurse, or a licensed physician, or a licensed dentist; and not requiring the substantial specialized skilled judgment and knowledge required in professional nursing.

For Public Assistance purposes, both professional and practical nursing is considered skilled nursing.

When it is determined that an individual needs services which must be directly administered by a skilled nurse as defined above and these services add up to a significant amount of time the individual is considered to need nursing care.

When it is determined that an individual needs services which can be directly administered by other than a skilled nurse but should be administered under the supervision of a skilled nurse the individual is considered to need rest care.

The Public Assistance worker relies heavily on the medical statement that is completed by the individual's attending physician. This statement when completed should show the physical condition that is producing the disability, the mobility status of the client, present therapy, including all medications and treatment procedures prescribed and any other specific care that is required.

The workers' own observations, information secured by the worker from the home operator and the medical report are then evaluated by the worker against predetermined criteria that has been established for both types of care.

Some of the criteria for nursing care are continued bedside care, frequent applications of surgical dressings, administration of medications and other prescribed treatment requiring professional judgment in its administration, irrigations, catheterizations, full bed baths, turning in bed, feeding when there is danger of choking because of swallowing difficulties, intravenous or tube feedings, skilled help in learning to use a prosthesis or to walk, etc.

Some criteria for rest care are the application of simple dressings, administration of simple routine medications not requiring professional judgment in its administration, simple enemas, toilet help, considerable help with dressing, undressing, shaving, simple feedings, taking pulse, respiration and temperature, etc.

\* Abstracted from a talk by Mr. Pollard before the Maine Nursing Home Association in Portland, February 18th, 1960.

\*\* Supervisor Rehabilitation Services, Division of Public Assistance.

When the type of care needed cannot be determined on the basis of the worker's observation, physician's report and discussion with the nursing home operator, because of incomplete medical information or inconsistencies, the worker will consult with the district health officer and/or the district health nurses. The worker, will, however, make the final decision regarding the type of care needed.

Once a determination has been made concerning the type of care needed, the worker must look at the type of care that the home is licensed to provide. This is done by simply determining whether the home is licensed as a Nursing Home or as a Rest Home. Licensing regulations recognize two types of facilities that may offer nursing care. The distinction between the two types of home is based on the amount of direct skilled nursing care that is available per patient. The nursing home facility which includes nursing and convalescent homes is considered able to provide more skilled nursing care per patient than the facility that is licensed as a rest home.

If the client has been determined to need rest care he will be classified according to the standard rate for rest care whether he is in a nursing home or rest home. The client who is determined to need nursing care will be classified at the standard rate of payment for nursing care provided he is in a nursing home. The client residing in a Rest Home will never be classified a rate of payment in excess of the rate for rest care.

With seven nursing home operators covering the state, there are bound to be variations in judgment and consequently in decisions. The Department is aware of this and is constantly looking for ways that tend to decrease the degree of variation.

For those patients who do not clearly fall into one classification or the other, the worker uses the district health officers who are physicians and/or the district health nurse. Presently, five different health officers are being used, here again is the opportunity for five different interpretations of similar situations. A great deal of consideration is now being given to the possibility of using a maximum of three district health officers and providing more intensive training opportunities around the Nursing Home Program for these three.

From the very inception of the program, there have been joint meetings for the nursing home workers and district health personnel, designed to create a greater

degree of understanding and consequently greater uniformity between a team consisting of a nursing home worker and district health officer in Machias and a team consisting of a worker and health officer from Portland, for example. In these meetings actual cases that present classification problems are used.

Also, with the exception of a brief period, monthly meetings for all of the nursing home workers have been held and these meetings have been devoted almost exclusively to problems of classification.

A sizeable sample of nursing and rest home cases throughout the States is currently being studied in order to evaluate the decisions that are being made against the intent of the Department's written policy. This should help to locate some of the problem areas in policy and to devise ways to clarify policy and methods to an extent that more uniformity will be assured. The casework supervisors and district supervisors also need a great many records and have regular conferences with the nursing home worker in their district and are constantly measuring the worker's decision against existing policy.

There is evidence that the workers who were involved in the program from the time of its inception are more clearly abiding by the intent of the policy and that they experience less confusion and uncertainty on gathering the needed material, measuring it against policy and arriving at a uniform decision.

A survey done in December of 1959 showed that at that time there were approximately 1,150 individuals for whom the Department was making a payment for nursing and rest home care. This is a substantial increase over the 891 individuals for whom payment was made in June of 1958. In June of 1958, forty-five per cent of those 891 individuals were classified as rest care patients and fifty-five per cent as nursing care patients. However, by December 1959, sixty-four per cent of the 1,150 patients were classified as nursing care patients and thirty-six as rest care patients. The Department is frankly concerned over the reason for the sharp increase in the number of patients classified as needing nursing care. Should the number of cases and payment for nursing and rest care continue to increase and the ratio of nursing care cases to rest cases continue its present trend, a fiscal crisis might well arise. It is thus imperative that greater uniformity in classification be attained.



## COUNTY SOCIETIES

## ANDROSCOGGIN

President, Paul J. B. Fortier, M.D., Lewiston  
Secretary, Donald L. Anderson, M.D., Lewiston

## AROOSTOOK

President, Robert B. Somerville, M.D., Presque Isle  
Secretary, Clyde I. Swett, M.D., Island Falls

## CUMBERLAND

President, Donald F. Marshall, M.D., Portland  
Secretary, Albert Aranson, M.D., Portland

## FRANKLIN

President, Herbert M. Zikel, M.D., Wilton  
Secretary, Philip B. Chase, M.D., Farmington

## HANCOCK

President, Arthur M. Joost, Jr., M.D., Bucksport  
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## KENNEBEC

President, John F. Reynolds, M.D., Waterville  
Secretary, Arch H. Morrell, M.D., Augusta

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President, Richard Waterman, M.D., Waldoboro  
Secretary, John A. Root, M.D., Rockland

## LINCOLN-SAGadahoc

President, Harry M. Wilson, M.D., Bath  
Secretary, Richard I. Clark, M.D., Bath

## OXFORD

President, Ake Akerberg, M.D., South Paris  
Secretary, Albert P. Royal, Jr., M.D., Rumford

## PENOBSCOT

President, Albert C. Todd, M.D., Brewer  
Secretary, Philip B. Thomas, M.D., Bangor

## PISCATAQUIS

President, John B. Curtis, M.D., Milo  
Secretary, James H. Johnson, Jr., M.D., Milo

## SOMERSET

President, Albert Bernard, M.D., Skowhegan  
Secretary, Harland G. Turner, M.D., Norridgewock

## WALDO

President, Ward A. Albro, M.D., Belfast  
Secretary-Treasurer, Seth H. Read, M.D., Belfast

## WASHINGTON

President, Harold G. Sears, M.D., Woodland  
Secretary, Karl V. Larson, M.D., East Machias

## YORK

President, Robert F. Ficker, M.D., Kennebunkport  
Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## CUMBERLAND

March 17, 1960

The monthly meeting of the Cumberland County Medical Society was held on March 17, 1960 at the Eastland Hotel in Portland, Maine.

After a social hour and dinner a talk was given by Dr. Howard Ulfelder, Harvard Medical School, Chief of Gynecology, Massachusetts General Hospital. His subject was "Results of Therapy of Endometriosis." A question and answer period followed.

The business meeting was called to order by the Vice President, Dr. Ronald A. Bettle in the absence of the President. The minutes of the previous meeting were read and approved. The application for membership of Dr. Douglass C. Pennoyer by transfer from the medical society of the county of New York were read and approved. The application of Dr. Douglas H. Brown was read to be voted on at the next meeting. The obituary of Dr. Lucinda Hatch was read by Dr. Alice A. Whittier and it was voted that this be spread upon the minutes of the Society and a copy be sent to her cousin, Mr. Charles Thompson. A letter was read from the acting health officer of Portland requesting the cooperation of the Society in three projected polio clinics and this was approved. A letter from Mrs. Nicholas Fish requesting approval of a Red Cross course for expectant mothers was voted upon favorably.

Dr. Edward G. Asherman gave a brief informational talk concerning the medical research fund of the United Fund. Support is requested by this organization for purely basic medical research and it is anticipated that a allocation may be made in the future by the local United Fund for this project. It was pointed out by Dr. Philip Thompson that this organization was originally set up in an attempt to undercut the activities of the independent agencies. Dr. Asherman agreed with this statement, but replied that the feeling of the leaders of the local United Fund had changed considerably in the past two years in respect to their original hostilities toward the independent agencies.

Dr. John B. Titherington expressed displeasure with the fact that Chairman of County Committees are rarely at meetings to report on the activities of their committee. It was suggested that the president notify these chairman a week in advance of the meeting to be ready to report on their committee or have another member report if they are unable to attend.

The meeting was adjourned at 10:15 p.m.

ALBERT ARANSON, M.D.  
Secretary

## PENOBSCOT

March 15, 1960

The March meeting of the Penobscot County Medical Society was held at the Tarratine Club, Bangor on Tuesday, March 15, 1960 with the President, Dr. Albert C. Todd, presiding.

Dr. Edward B. Babcock presented the speaker of the evening, Dr. Paul Griffin of the Children's Medical Center, Boston. Dr. Griffin presented a paper on "Fractures in Childhood" which was illustrated by slides. A short discussion period was held following the paper.

At the business meeting the minutes of the February meeting were read and approved. The letter of Resolutions for Dr. LaForest J. Wright of Corinna was read to the Society. Dr. Todd introduced two new members, Drs. Michael Barton

NEW FROM

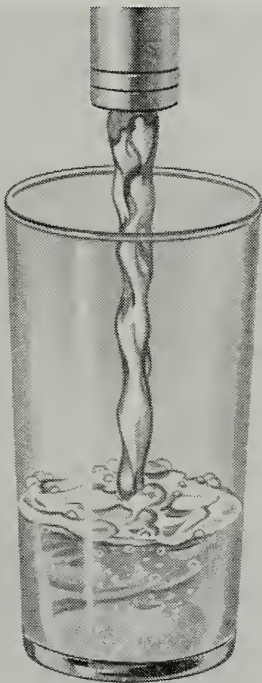
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easy to pass  
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purgatives

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delightful mild lemon flavor

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16 Packets



and Kong Lee to the Society. Dr. Todd appointed a Resolutions Committee of Dr. Thomas H. Palmer, Jr. and Dr. Sidney Chason to prepare resolutions on the death of Dr. Joseph Lezberg.

Dr. William M. Shubert made the motion that the Secretary write to the State Insurance Commissioner for detailed explanation of the current rates of malpractice insurance for the state of Maine and the motion was seconded and passed.

The Secretary read letters from Senators Muskie and Smith and from Congressmen Coffin, McIntire and Oliver in reply to the letter sent to each from the Penobscot County Medical Society expressing the opposition of the Executive Council to passage of the Forand Bill HR-4700.

A letter from the Bangor Historical Society was read inviting the Penobscot County Medical Society to a talk to be given by Dr. Mason Trowbridge, Jr. on March 23, 1960 on The History of Bangor Medicine. A letter was read from the Maine Medical Association concerning the Interim Meeting of the House of Delegates to be held in Brunswick on Sunday, April 3, 1960.

Dr. Carl W. Irwin spoke briefly about the Multiple Sclerosis clinic at the Eastern Maine General Hospital and the services offered at the Hyde Memorial Home.

A communication from the Bangor-Brewer Jaycees concerning collection of drug samples from local physicians to be distributed to the needy in other countries was discussed and it was voted on favorably.

PHILIP B. THOMAS, M.D.  
*Secretary*

#### YORK

March 9, 1960

The monthly meeting of the York County Medical Society was held at the Goodall Hospital Nurses' Home in Sanford,

Maine on Wednesday, March 9, 1960. Thirty-seven members and guests were present.

A social hour and dinner preceded the business meeting which was called to order by the President, Dr. Robert F. Ficker. Dr. Robert Mezer gave a talk on medicine and the law with lantern slides followed by a question period.

Walter R. Peterlein, M.D. was elected to membership in the Society. The following were appointed by the President to revise the by-laws, Kenneth E. Leigh, M.D., James S. Johnston, M.D. and Charles W. Kinghorn, M.D. Melvin Bacon, M.D. was instructed to contact reporters in regard as to how to secure medical attention.

CHARLES W. KINGHORN, M.D.  
*Secretary*

#### New Members

##### CUMBERLAND

Douglass C. Pennoyer, 112 Vaughan Street, Portland

##### YORK

Walter R. Peterlein, 75 Main Street, Springvale

#### Deceased

##### PENOBSCOT

Joseph Lezberg, 33 Beecher Park, Bangor, March 8, 1960

##### CUMBERLAND

M. Carroll Webber, 735 Stevens Avenue, Portland, March 19, 1960



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yes, any rheumatic "itis" calls for  
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# Necrologies

## MOSES FREED LUBELL, M.D.

1900-1960

Moses Freed Lubell, M.D. died suddenly on January 13, 1960 at his residence in Waterville.

Dr. Lubell was born in Philadelphia, Pennsylvania, September 11, 1900, the son of Aaron David and Rebecca Freed Lubell.

He received his bachelor of arts degree from Harvard University in 1921 and graduated from Columbia University College of Physicians and Surgeons in 1925. He served his internship at Beth Israel Hospital in New York from 1925 to 1927 and was named X-ray resident in 1927, a post he held until 1930 when he moved to Waterville. From 1931 until 1940

he was radiologist at the Sisters' Hospital and from 1940 until his death chief roentgenologist at the Thayer Hospital.

He was a member of the Maine Medical Association, the Kennebec County Medical Society, the Radiological Society of North America and the American College of Radiology.

He was a member of the Beth Israel Congregation in Waterville and the Waterville Rotary Club.

Dr. Lubell is survived by a son, David S. Lubell, a student at New York University; a daughter, Elizabeth W. Lubell, a student at Jackson College in Medford, Massachusetts; a brother and four sisters.

## EDMUND P. WILLIAMS, M.D.

1876-1959

Edmund P. Williams, M.D. of Oakland, died December 30, 1959 following a brief illness.

Dr. Williams was born in Topsham, Maine on June 11, 1876, the son of Joseph M. and Elizabeth Barnes Williams. He graduated from Brunswick High School in 1895, Bowdoin College in 1900, and Bowdoin Medical School in 1908. He taught school at Swan's Island, New Gloucester, and Gorham, New Hampshire, from 1900 to 1904.

Dr. Williams was married to Effie May Cowan of Sidney in 1907 at Portsmouth, New Hampshire. Mrs. Williams died several years ago.

He practiced medicine in Sidney from 1908 to 1923 during which time he served as superintendent of schools. In 1923 he moved to Oakland where he remained in active practice until his death.

Dr. Williams was an Honorary member of the Maine Medical Association, receiving his 50-year pin in 1958. He was a member of the American Medical Association and the Kennebec County Medical Association.

He had been a Master Mason in Rural Lodge, Sidney since 1910 and was the oldest living past president of the lodge. He was a member of Drummond Chapter and Mount Lebanon Council in Oakland and the White Rose Chapter, OES, Sidney.

Surviving Dr. Williams are three brothers, Dr. James Williams, Mechanic Falls, Herbert and Roger, both of Topsham; two sisters, Mrs. Josephine Forgette of Florida and Mrs. Evelyn Hennessey of Topsham; three children, Dr. Ralph Williams, Freeport, Philip Williams and Mrs. Elizabeth W. Chadbourne of Oakland; and ten grandchildren.

## LAFOREST JULIAN WRIGHT, M.D.

1881-1960

LaForest Julian Wright, M.D. died suddenly on February 9, 1960 at his residence in Corinna.

Dr. Wright was born in Pittsfield, Maine April 4, 1881, the son of Thomas J. and Emma Holbrook Wright. He attended schools in Lewiston and received his medical degree, *Cum Laude*, from the University of Vermont in 1905. He practiced medicine in Hermon for 13 years, and in Bangor 37 years before moving to Corinna in 1955.

Dr. Wright was a past president of the Penobscot County

Medical Society and an Honorary member of the Maine Medical Association receiving his 50-year pin in 1955. He was a past president of the Bangor-Brewer Lions Club, past master of Hermon Grange, a member of Lynde Lodge, AF and AM, of Hermon and the Parian Lodge of Corinna. He was also a member of Mount Moriah Royal Arch Chapter, St. John's Commandery and the Annah Temple Shrine, of Bangor.

Surviving Dr. Wright is his widow, the former Golda A. Philbrick of Bangor.



# Announcements

**State of Maine Board of Registration of Medicine**  
**Secretary — Daniel F. Hanley, M.D.,**  
**Brunswick, Maine**

**Physicians Licensed to Practice Medicine and**  
**Surgery in the State of Maine**  
**March 8, 1960**

## THROUGH EXAMINATION

Ahmet Aksu, M.D., 5323 6th Avenue, Brooklyn 20, New York  
 Joannes Cap, M.D., New Jersey State Hospital, Greystone Park, New Jersey  
 Stanley Kohl, M.D., 2017 Caton Avenue, Brooklyn, New York  
 Elmar G. Lutz, M.D., 1000 Spring Garden Road, Ancora, Hammononton, New Jersey  
 Paul O. Proudian, M.D., P.O. Box C, Pownal, Maine  
 Erich H. W. Simon, M.D., New Jersey State Hospital, Trenton, New Jersey

## THROUGH RECIPROCITY

John T. Brackin, Jr., M.D., Abington Memorial Hospital, Abington, Pennsylvania  
 John L. Cutler, M.D., P. O. Box 231, Ridgefield, Connecticut  
 Angelo J. Eraklis, M.D., 4 Washburn Avenue, Portland, Maine  
 Edward W. Goldstein, M.D., 561 East 28th Street, Paterson 4, New Jersey  
 Clement A. Hiebert, M.D., Maine Medical Center, Portland, Maine  
 Robert G. Mohlar, M.D., 11 McKeen Street, Brunswick, Maine  
 William T. Seales, M.D., Rumford Community Hospital, Rumford, Maine  
 Fuller G. Sherman, M.D., 204 Delaware Street, Woodbury, New Jersey  
 Oney P. Smith, M.D., Dunn Garden Apts., Troy, New York  
 Robert D. Wilson, M.D., Arthur R. Gould Memorial Hospital, Presque Isle, Maine (Licensed November 12, 1959)

**Pineland Hospital And Training Center**  
**Pownal - Maine**  
**Carl Hedin General Hospital - Red Room**

1960

May 5	Lecture — Heredity	11:00 A.M.
May 12	Lecture — Shock Treatment	11:00 A.M.
May 19	Lecture — Pathology and clinic of the cerebellum	11:00 A.M.
May 26	Lecture — On some Enzymes	11:00 A.M.
May 12	Clinicopathological Conference	10:00 A.M.

## New England Society Of Anesthesiologists

The Third Annual Regional Conference of the New England Society of Anesthesiologists will be held September 18th and 19th, 1960 at Bretton Woods, New Hampshire.

For further information write to Thomas K. Burnap, M.D., P.O. Box 81, Kenmore Station P.O., Boston 15, Massachusetts.

## Maine Medical Center Course In Respiratory And Circulatory Resuscitation\*

All Physicians are cordially invited to attend this course of lectures and demonstrations which is sponsored by the Department of Anesthesiology in response to many requests from practicing physicians. It is designed to integrate basic concepts with practical methodology for physicians whose responsibilities occasionally include management of emergencies. These courses are to be held in the Alida Leese classroom at 7:30 P.M. on the following dates:

Date	Subject	Conducted by
1960		
April 20	Artificial ventilation — mechanical methods.	John R. Lincoln, M.D.
April 27	Differential diagnosis of the unconscious state.	C. Lawrence Holt, M.D.
May 4	Management of barbiturate intoxication.	Howard P. Sawyer, M.D.
May 11	Protection of respiratory function in the ill patient	John R. Lincoln, M.D.
May 18	Physiology of circulation.	Section on Cardiology
May 25	Current concepts of shock.	Elio Baldini, M.D.
June 1	Cardiac arrest.	Howard P. Sawyer, M.D.

\* Approved for credit by the American Academy of General Practice under category No. 2 as set up by the Committee on Education. (15 hours)

## Medical Seminar Cruise Sponsored By The Duke University School Of Medicine

All practicing physicians are welcome to attend a cruise to the Baltic visiting Le Havre, Cuxhaven, Leningrad, Helsinki, Stockholm, Copenhagen, and Hamburg, aboard the T. S. Ariadne. The cruise sails from Wilmington, North Carolina, on June 5, 1960 and from New York City on June 8, 1960 and will terminate in Hamburg, Germany, on June 28, 1960 at a cost of \$715 and up.

For information relative to itinerary and reservations write the Allen Travel Service, Inc., 565 Fifth Avenue, New York 17, New York.

For further medical details write to William M. Nicholson, M.D., Professor of Medicine and Assistant Dean in Charge of Postgraduate Education, Duke University Medical Center, Durham, North Carolina.

For information as to the deductibility for income tax purposes, of the expenses of professional postgraduate education, see Journal of American Medical Association of July 28, 1956, page 1260.

### Second International Symposium Of The Deborah Hospital On Current Concepts In Medicine

Congenital Heart Disease will be the subject of the International Symposium on Current Concepts in Medicine which will be held under the auspices of Deborah Hospital on April 28 through April 30, 1960 at the Bellevue-Stratford Hotel in Philadelphia.

Topics for the three-day session include: Pathogenetic Factors In Congenital Heart Disease, Definitive Diagnosis of Congenital Heart Disease, Surgical Tools, Special Surgical Considerations, and Management of the Cyanotic Newborn.

For further information write to Morton J. Schwartz, Public Relations Director, Deborah Hospital, 901 Walnut Street, Philadelphia 7, Pennsylvania.

### American Board Of Obstetrics And Gynecology

Applications for certification (American Board of Obstetrics And Gynecology), new and reopened, Part I, and requests for re-examination in Part II are now being accepted. Deadline for receipt of applications is August 1, 1960.

Candidates are requested to write to the office of the Secretary, Robert L. Faulkner, M.D., 2105 Adelbert Road, Cleveland 6, Ohio, for a current Bulletin in order that they might be well informed as to the present requirements. Application fee (\$35.00), photographs, and lists of hospital admissions must accompany all applications.

### Pan-Pacific Surgical Association

The Eighth Congress of the Pan-Pacific Surgical Association will be held in Honolulu, Hawaii, September 27 through October 5, 1960.

All members of the profession are eligible to register and are urged to make arrangements as soon as possible if they wish to be assured of adequate facilities because of limited space.

An outstanding scientific program by leading surgeons promises to be of interest to all doctors. Ten surgical specialty sections are held simultaneously.

Further information and brochures may be obtained by writing to Dr. F. J. Pinkerton, Director General of the Pan-Pacific Surgical Association, Suite 230, Alexander Young Building, Honolulu 13, Hawaii.

### American Academy Of General Practice Tri-State Spring Clinical Meeting

The seventh annual tri-state spring clinical meeting of the Maine, New Hampshire, and Vermont Chapters of the American Academy of General Practice will be held on Thursday, May 5, 1960 at the Lafayette Hotel in Portland, Maine.

The topics of the scientific sessions will include: An Evaluation of Natural and Synthetic Adrenocortical Steroids, Control of Anticoagulant Therapy, The Malabsorption Syndrome, and Non Surgical Treatment of Metastatic Cancer.

All physicians and wives are invited to attend. No fee is required for attendance at the scientific sessions, luncheon or reception.

### Maine Trauma Committee May 4, 1960 Eastern Maine General Hospital

The Maine Trauma Committee announces a meeting to be held Wednesday, May 4, 1960 at the Eastern Maine General Hospital in Bangor at 2:00 p.m.

The topics of the scientific sessions include Elbow Trauma — at all ages and Chest Trauma. A social hour and dinner will follow at the Penobscot Valley Country Club in Orono.

### Department Of Health And Welfare Division Of Maternal And Child Health Including Services For Crippled Children

#### Orthopedic Clinics

- Portland — Maine Medical Center  
9:00 a.m.: May 9, June 13
- Lewiston — Central Maine General Hospital  
9:00 a.m.: May 20, June 17
- Rumford — Community Hospital  
1:30 p.m.: June 15
- Waterville — Thayer Hospital  
1:30 p.m.: June 23
- Rockland — Knox County Hospital  
1:30 p.m.: May 19
- Presque Isle — Northern Maine Sanatorium  
9:00 a.m. and 12:30 p.m.: May 10
- Fort Kent — Peoples Benevolent Hospital  
10:00 a.m.: May 11
- Bangor — Eastern Maine General Hospital  
1:00 p.m.: May 26  
(Several will be two-session clinics)
- Augusta — Augusta General Hospital  
1:00 p.m.: Apr. 28

#### Cardiac Clinics

- Portland — Maine Medical Center  
9:00 a.m.: Every Friday (Holidays Excepted)
- Bangor — Eastern Maine General Hospital  
9:00 a.m.: Apr. 22, May 13, 27, June 10, 24

#### Cleft Palate Evaluation Clinics

- Portland — Maine Medical Center  
10:00 a.m.: May 10

#### Pediatric Clinics

- Bangor — Eastern Maine General Hospital  
1:30 p.m.: Apr. 22, May 27, June 24
- Presque Isle — Northern Maine Sanatorium  
1:30 p.m.: May 25
- Waterville — Thayer Hospital  
1:30 p.m.: May 3, June 7

#### Clinics For Mentally Retarded Pre-School Children

- Waterville — Thayer Hospital  
9:00 a.m.: Apr. 20, May 4, 18, June 1, 15, 29

#### Adolescent Clinics

- Portland — Maine Medical Center  
1:00 p.m.: Apr. 27, May 25, June 22



### Annual Otolaryngologic Assembly

The University of Illinois College of Medicine, Department of Otolaryngology will offer an intensive postgraduate basic and clinical program for practicing otolaryngologists September 24 through September 30, 1960. The Assembly offers a compact program of one week of daytime and evening sessions. It is designed to bring to specialists a wide variety of current advances in management, therapy and philosophies. Review of basic morphologic features is also included by means of laboratory demonstrations, dissection and prosection, all augmented by visual aids.

Panel programs have been designed to bring out special features of otologic and reconstructive surgery and tumors of the head and neck. Luncheon chats are an important part of the daily program.

Interested physicians should write direct to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

### Reviews Of Medical Motion Pictures

The 11th annual publication of REVIEWS OF MEDICAL MOTION PICTURES is now available on request from the Film Library of the American Medical Association. This publication is prepared by the Division of Communications, Department of Medical Motion Pictures and Television and contains reprints of all reviews published in The Journal A.M.A. during 1959.

### Western Reserve University

The Western Reserve University Law-Medicine Center in Cleveland, Ohio, will offer a two-day institute on "Alcohol Intoxication and Influence."

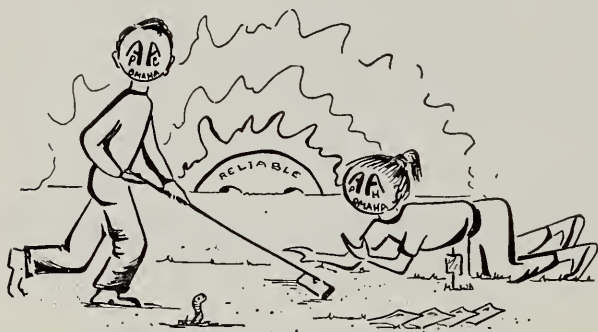
The institute, scheduled for May 12 and May 13, 1960 will emphasize the civil and criminal aspects of the topic and will consider such areas as the physiological effects of alcohol on the human body, the history and theory of chemical tests and the scientific equipment available to perform chemical tests.

The fee for this institute is \$25 and housing facilities will be available. For registration or further information write to Oliver Schroeder Jr., Director, The Law-Medicine Center, 2145 Adelbert Road, Cleveland 6, Ohio.

### American Physicians Art Association

The 23rd annual exhibition of art works by American physicians will be held June 13 through June 18, 1960, at the Miami Beach Exhibition Hall and Auditorium. It will be held in conjunction with the annual convention of the American Medical Association. The show will include over 300 works of art in oil, water color, sculpture, crafts, photography and lithography.

Participants and prospective exhibitors may obtain further information by writing to Dr. Kurt F. Falkson, 7 East 78th Street, New York City, Secretary of the American Physicians Art Association.



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## National Civil Defense Conference

The eighth annual National Civil Defense Conference will be held at the Americana Hotel in Miami Beach, Florida, June 11, 1960. The one-day conference is sponsored by A.M.A.'s Council on National Security.

The opening session will be addressed by Dr. E. Vincent Askey, Los Angeles. An exploration of the problem of radiation injury and the current status of medical management with emphasis on diagnosis, nursing care, treatment, and current research in the total problem of mass radiation casualties will open the morning program. The afternoon session will stress the importance of community preparedness as the basis for national survival. A film review of recent disasters with a running commentary on the special medical problems of these situations will be presented.

For further conference information, write to Mr. Frank Barton, Secretary, Council on National Security, American Medical Association, 535 N. Dearborn Street, Chicago 10, Illinois.

## American Medical Association Regional Health Conference

The A.M.A. Regional Health Conference for New England will be held on April 22, 1960, beginning at 9:30 a.m., for registration at the Memorial Union Building, University of Massachusetts at Amherst, Massachusetts.

The program is to cover the overall theme of "Assuming the Responsibility for Good Health." There will be speakers

on the following subjects: "Insecticides and Pesticides and How They Affect Humans," "Immunizations from Childhood to Adult Life," "Animal Diseases Transmissible to Man" and "The Formation of Homemaker's Services in Small Towns."

For further information write to Norman H. Gardner, M.D., Vice Chairman, Council on Rural Health, American Medical Association, East Hampton, Connecticut.

## Tri-City Meeting Of The Regional Committees On Trauma Of The American College Of Surgeons And The Quebec Society Of Orthopedics And Traumatology

The meeting of the American College of Surgeons and the Quebec Society of Orthopedics and Traumatology will be held on April 22 and 23, 1960. Registration will be on the morning of April 22nd at 8 a.m. in The Montreal General Hospital, 6th floor, Cedar Avenue entrance.

Participants in the program will be staff members of the Montreal General Hospital, the Royal Victoria Hospital, the Notre Dame Hospital and the Montreal Children's Hospital. The dinner will be on Friday evening at the Queen Elizabeth Hotel. The guest speaker will be Mr. Edgar Andrew Collard, Editor-Montreal Gazette, who will be introduced by Dean Lloyd Stevenson of The Faculty of Medicine, McGill University.

For further information write to George Little, M.D., Medical Arts Bldg., 1538 Sherbrooke Street W., Montreal, Quebec.

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PROCEEDINGS, INTERIM MEETING, HOUSE OF DELEGATES

Continued from page 129

TENTATIVE BLUE SHIELD RATES  
FOR SUGGESTED OPTIONAL BENEFITS

At the request of members of the Health Insurance Committee of the Maine Medical Association, rates have been figured for various optional plans. These tentative rates are based on the best information available, consisting mostly of the actual 1959 experience under the "BSB" Contract. Before any of these coverages are offered for sale to the public, the rates should be confirmed by our consulting actuary. The following briefly describes the options for which rates were figured:

- Option 1: Modified "BSB" Contract, using \$2.50 point value. Medical benefit without deductible and increased to \$4.00 per day the first seven (7) days.
- Option 1A: Same as option 1, except that the first three medical visits are deductible, then 4 days at \$4.00 and the remainder at \$3.00.
- Option 2: Same as option 1, except containing a deductible of \$25.00 from the surgical or obstetrical fee, or from the amount payable for in-hospital medical visits.
- Option 3: This is the "BSC" Contract as presently being sold. This was figured independently without reference to previous computations, and the fact that substantially the same rates were arrived at tends to prove the correctness of the original computations.
- Option 3A. Same as Option 3: with a \$25.00 deductible from surgical or obstetrical fees or in-hospital medical benefits (Continue as in 3).
- Option 4: Same as option 3, with a \$50.00 deductible from surgical or obstetrical fees, or from in-hospital medical benefits.

Group	Present "BSB" Rates	Op- tion 1	1A	Op- tion 2	Op- tion 3	3A	Op- tion 4
Individual	\$1.30	\$1.45	\$1.35	\$ .95	\$2.00	\$1.50	\$1.05
Two person	2.60	2.90	2.70	1.90	4.00	3.05	2.10
Family	3.25	4.25	4.10	2.70	5.25	4.60	2.95
Non-Group							
Individual	\$1.35	\$1.50	\$1.40	\$1.00	\$2.10	\$1.60	\$1.10
Two person	2.70	3.00	2.80	2.00	4.20	3.20	2.02
Family	3.50	4.40	4.25	2.85	6.00	4.55	3.10

NOTE. Recommended by Committee — Options 1-2-3-3A.

Dr. Morse urged members to read page 94 of the March, 1960 M.M.A. Journal re "The Federal Employees Health Act — Its Significance for

Medicine." Recommendations by the Committee for the Federal Employees Insurance Program:

- a) Raise income limits to meet the national (legal) requirements for Federal Employees Insurance program. Raised to \$2500-\$4000.
- b) Endorse options 1, 2, 3 and 3A and enter into negotiations with the Federal Government to contract for Federal Employees Insurance.
- c) Recommended again that Blue Shield come up with a \$25.00 deductible policy.
- d) That Blue Shield hire a full-time professional relations man.

Motions presented by the Committee on Medical Education and Hospitals (for final action at the annual meeting in June.)

- a) That the Maine Medical Association establish a Medical Education Foundation to help worthy student, and  
That each member of the Maine Medical Association be taxed (or voluntarily contribute) \$25.00 per annum, and  
That all other sources be explored (Industry, Insurance, Foundations, General Public, etc.)  
(Suggestion for distribution of funds: that every boy who completes medical school get \$1,000 free and a chance to borrow up to \$5,000 at low interest rates (graduated interest).
- b) That the following portion of Chapter VII, Section 5 of the By-Laws pertaining to the Committee on Medical Education and Hospitals, be deleted: "(1) to keep itself constantly informed concerning the relations between physicians and hospitals."

8. Industrial Health. Niles L. Perkins, Jr., M.D., Committee Chairman, stressed the aging problem and spoke briefly relative to the cardiac clinic which he organized in Rumford and which has returned many people to work, who had been dropped from the payrolls.

9. Amendment to the Constitution and By-Laws re: organization of Council proposed by Eugene E. O'Donnell, M.D., by adding to Chapter IV, Section 7 of the By-Laws, the following:

If it becomes expedient, a member of the Council of the Maine Medical Association, who has served more than one three-year term and who has reached the age of sixty, may upon recommendation of the Council and a majority vote of the delegates of his own county society, be continued as a member of the Council for one or more years, representing the Councilor District in which he resides.



# The Journal of the Maine Medical Association

Volume Fifty-One Brunswick, Maine, May, 1960 Number 5

## A Study Of Disease Incidence And Results In Elderly Hospital Patients\*

EUGENE E. O'DONNELL, M.D.\*\*

I am very glad to talk to you about the care of elderly people. So far as this subject is concerned, your problem is principally the custodial care of the elderly. Mine, and that of the average physician, concerns the recognition and treatment of diseases associated with old age. The two problems merge so closely that we meet on common ground. We can learn a great deal from the experience of religious and fraternal organizations who, for some time, have dedicated themselves to this work.

I will not mention the psychological or psychiatric problems with which many of you are confronted, because I do not feel competent to speak in these fields. Neither will I discuss metabolism or nutrition in the aged, as they effect the reparative processes. There are many other sources from which you may gain information on these subjects.

It seemed to me that it might be of some interest to you to know what happened to the people beyond 70 years of age, who were admitted to a general hospital (in this case, the Mercy Hospital of Portland), what percentage of the hospital population they represented, the diseases for which they were treated, and the final disposition of this group of people during a one year period.

We found, in reviewing the records of the Mercy Hospital from July 1, 1957 to July 1, 1958 the following:

9,972 Patient admissions in all age groups  
530 Patient admissions over age 70 were included in this group:

228	.....	Males
302	.....	Females
Married	.....	229
Widowed	.....	250
Single	.....	51
337	.....	Medical cases
193	.....	Surgical cases
37	.....	Cases due to trauma

### Scene of Trauma —

At home	.....	32
Street	.....	2
Automobile	.....	1
Unspecified	.....	2

435 of 530 patient admissions were discharged to their homes. 26 patients went to a nursing home or other institutions. 69 patients died.

The average number of days in the hospital for this group of 530 patient admissions was 13.1 days. Admissions varied from 1 day to 139 days.

The diseases which were represented as primary cause, or major contributing cause of death were as follows:

Heart Disease	.....	33
---------------	-------	----

\* Presented at a meeting of the Maine Association of Nursing Homes, October 16, 1958 at Portland, Maine.  
\*\* Chief of Staff, Mercy Hospital, Portland, Maine.



Cerebral thrombosis .....	11
Diabetes .....	6
Cancer .....	19
Fractured femur .....	3
Nephritis .....	3
Gastric ulcer .....	1
Pulmonary emboli .....	2
Polycythemia .....	1
Hepatitis .....	1
Gall bladder disease .....	2
Pancreatitis .....	1
Pneumonia .....	1

In the cases of cancer, the following organs or systems were represented:

Breast .....	4
Uterus .....	4
Cervix .....	2
Urinary bladder .....	5
Prostate gland .....	14
Rectum and Colon .....	13
Lungs .....	10
Pancreas .....	2
Vulva .....	2
Skin .....	5
Stomach .....	2
Generalized .....	1
Malignant melanoma .....	1
Lymphosarcoma .....	1
Brain .....	1

Of the 530 patient admissions over age 70, the primary diagnosis as to organs and systems were as follows:

Heart Disease .....	99
Respiratory diseases .....	50
Gastro-intestinal tract, including 24 cases of gall bladder disease .....	93
Genito-urinary system .....	70
Peripheral Vas. Dis. ....	7
Eye .....	10
Cerebral Vascular .....	34
Diabetes .....	30
Gynecological .....	12
Dermatological .....	16
Rectal .....	4
Brain .....	1

In 99 cases of heart disease, there were 33 deaths. (Mortality — 33%)

93 patients were admitted with gastro-intestinal symptoms: 24 (26%) of these patients had gall bladder disease; 2 died. (Mortality of 8% for gall bladder disease at or beyond age 70.)

(Therefore, we have an instance of 26% of gall bladder disease in patients admitted with gastro-intestinal symptoms.)

There were 11 inguinal herniae repaired without mortality. The oldest an 81-year-old male.

6 of the 30 diabetics died. (Mortality — 20%.)

There were 70 cases of genito-urinary tract disease,

both male and female, including 14 cases of cancer of prostate: 2 deaths.

There were 11 cases of cancer of the colon and rectum; 3 of these were cases of recurrent disease; 3 were inoperable when first seen; the remaining 5 were operated upon successfully.

There were 2 cases of cancer of the stomach; both of which died. There was one benign tumor of the stomach, which was treated successfully with surgery. Obviously, these people beyond 70 years of age had passed the peak incidence of certain types of cancer; notably cancer of the stomach and cancer of the cervix.

There were 11 cases of fractured femur; 3 died; the remaining 8 were treated successfully.

140 cases (or 26.4%) were due to disease of the arteries in the form of heart disease, cerebral vascular or peripheral vascular disease:

99 Cases of heart disease

34 Cases of Cerebral vascular disease

7 Cases of peripheral vascular disease

There were 50 patients who had respiratory infections of varying degrees of severity, with one death resulting from pneumonia. (Mortality — 2%)

It is obvious from these figures that of the 530 cases, the vast majority represented advanced disease of the cardio-vascular system, either in the form of heart disease, cerebral arteriosclerosis, or peripheral vascular disease.

In looking at the bright side of the ledger — there were 193 surgical patients, 26 died, 167 returned to their homes.

There were 337 medical patients, 46 died, 291 were discharged cured or improved.

So far as I know, of the 26 patients who went to nursing homes, all were either widowed or single.

Certain cases stand out as happy and gratifying results; notably Case No. 363, open reduction of fractured hip; home in 17 days, and Case No. 387, prostatectomy; home in 13 days.

The mortality for patients who were admitted with surgical problems was 13%.

If we are to participate in the care of elderly patients, we must look at the bright side of the ledger and take a positive attitude in their observation and treatment. This applies not only to the hospital group, but also to nursing home patients. As the nursing home population increases, we must provide more nursing and physician care. In order that we may be alert to and recognize promptly, the diseases of the aging which are frequently incidious in their onset, but if properly attended, will yield a high salvage rate. Specific disease entities, as distinguished from the general aging process, can only be identified by constant nurse and physician care.

Many of these patients have not felt particularly well for some time, and they are oft-times loathe to call our attention to the symptoms and signs which, to them, have no particular significance. The onset of mild congestive heart failure or chronic urinary tract obstruction

may pass unnoticed, unless symptoms and physical signs are deliberately elicited.

I would like to emphasize that sudden vomiting of large quantities of gastric contents, with or without pain, may mean pyloric or intestinal obstruction.

An incarcerated hernia in an elderly person, particularly if located in the femoral canal, may be easily overlooked; and we know from other studies that the mortality in this group of cases ranged between 10 and 15%.

The gradual change in bowel habits, with alternating periods of constipation and diarrhea, with or without blood in the stools, may be a late manifestation of cancer of the colon or rectum.

The sudden onset of pain in an extremity, especially in one known to have heart disease, will not permit more than a few hours delay if embolectomy, to avoid the loss of a limb, is to be successful.

The axiom that the brain, heart and kidneys are the triad on which our success depends is literally true. These organs cannot function at their maximum efficiency if the patient has impaired cardiac output due to diminished blood volume, or disturbance of fluid or electrolyte metabolism.

In the selection of elderly patients for surgery, I would emphasize that there is no such thing as minor surgery. For example, an 85-year-old male was admitted to the hospital with rectal discomfort. Examination disclosed a thrombosed external hemorrhoid. The following day, he received pre-operative medication, saddle-block anesthesia, and the thrombosed pile was excised in a few moments. That evening, he became delirious, was unable to void, and gave us a bad forty-eight hours, before he became stabilized. He left the hospital in good condition on his 4th postoperative day. One can readily visualize what might have occurred in what appeared to be a minor surgical case, if he had sustained a fall from bed for lack of adequate nursing care, had developed hypostatic pneumonia, or a urinary tract infection following catheterization.

One especially interesting aspect of this old age group refers to those who stayed over 3 weeks. It was assumed that all who stayed over 3 weeks would fall into a group of cases where the hospital bill would constitute a finan-

cial hardship. There were 60 patients out of 530, who stayed for a total of 531 days. At \$20 per day, this represents \$10,620, a sum which could readily be absorbed in any insurance program, where there were nearly 10,000 admissions during the same year.

#### SUMMARY

1. That the great majority of people over 70 years, who were admitted to this hospital, were returned to their homes. (435 patient admissions out of 530; or 81¼%)

2. That the all-over mortality for this group was 13%.

3. That the surgical mortality was 13½%.

4. Disease of the cardio-vascular system presented the most common cause of death. (44 cases out of 69 medical deaths from all causes.)

5. Cancer was second; 19 deaths out of 69 deaths from all causes.

6. In spite of these facts, 2/3 of the patients with heart disease returned to their homes. (66 cases out of 99)

7. 49 out of 67 cancer cases were discharged cured or improved.

8. 26.4% of the gastro-intestinal complaints were due to gall bladder disease.

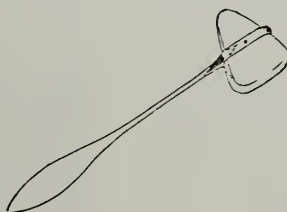
9. That a relatively small proportion of patients in this age group (26 out of 530) were discharged to Nursing Homes.

10. It appears that an actuarial study of patients in this age group, especially those long cases which stayed over three weeks, might very possibly make them eligible for prepaid hospital and medical care.

I should like to emphasize the importance of your Society, the Maine Association of Nursing Homes, and I hope that you will meet often, and exchange ideas with each other from your experience.

I know that all of us here are conscious that these figures represent people, and we must deal with these people as individuals. This case study, while not sufficiently large to be of statistical significance, may, I hope, motivate others throughout the State to make similar observations.

32 Deering Street, Portland, Maine.





# Peptic Ulcer Healing And Ulcerogenic Drugs\*

IRVING J. POLINER, M.D.\*\*

FRANCIS A. SPELLMAN, M.D.\*\*\*

Peptic ulcer, by definition, is a loss of substance of the mucous surface, usually of the stomach or duodenum, causing gradual disintegration and necrosis. The etiology is unknown although it has been known clinically for many years that both acid (hydrogen ions) and pepsin are necessary in its formation. Whether they are the specific cause or merely steps in the process remains unclear. Since the etiology is unknown, treatment of peptic ulcer remains empirical; that is, the neutralization of hydrogen ions and pepsin, and the decrease in their secretion.

In recent years certain drugs have been implicated in the formation of peptic ulcer. Numerous authors have stated that the use of these drugs (specifically ACTH, adrenal steroids, and rauwolfia) are contraindicated in the presence of peptic ulcer. That the basic medical condition may necessitate these drugs, and that peptic ulcer may be healed with intensive medical therapy concomitantly with steroids or rauwolfia, has been overlooked frequently. For this reason the following two patients are reported. Both had a peptic ulcer that was healed; one was receiving prednisone and the other reserpine.

## CASE REPORT NO. ONE

Mercy Hospital (No. 116,418) This fifty-eight year old white male entered the hospital in April, 1959 for evaluation of upper abdominal complaints and hypertension. Over the preceding four years in the early spring he had had episodes of upper abdominal distress with nausea and vomiting. These symptoms returned this year and were more persistent. Upper gastrointestinal series done two years and one year prior to admission were normal. Approximately five years prior to admission hypertension had been discovered. Since then, it had been intermittently recorded at 160/110. Prior to hospitalization it was found to be 250/130. A brother had had a subtotal gastrectomy for ulcer disease and also had hypertension.

Physical examination showed a blood pressure of 190/110, pulse of 70, and respiration of 20. He was a well developed, short, obese white male in no acute

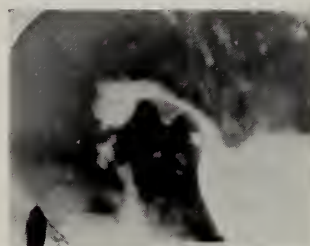


FIG. 1



FIG. 2

FIGS. 1 AND 2. Case No. 1 Showing prepyloric greater curvature ulcer and resultant healing two weeks later.

distress. The fundi were poorly visualized due to early cataracts. The heart was slightly outside the mid clavicular line in the 5th intercostal space, but otherwise normal. The abdomen was obese, but showed no other abnormality. The prostate was two times enlarged. The remainder of the examination was normal.

Laboratory studies showed the urine to be normal and to concentrate to 1.026. A PSP test showed 20 per cent excretion in fifteen minutes. A blood urea nitrogen and urea clearance were normal as was a complete blood count. Six stools for blood were negative by guaiac. A gastric analysis without histamine showed a pH less than 2 (pH paper) and 104 units of total acid.

X-rays of the chest showed slight left ventricular hypertrophy. An intravenous pyelogram was normal. An upper gastrointestinal series showed a deformed duodenal bulb and a prepyloric greater curvature ulcer.

An electrocardiogram was "compatible with left ventricular strain."

The patient was treated with milk and magnesium-aluminum hydroxides (Maalox®, Rorer, Inc.) phenobarbital, and hexocyclium methylsulfate (Tral®: Abbott Laboratories). He was also given reserpine 0.08 mg. plus protoveratrine-A 0.2 mg (Protalba®, Pittman-Moore Company), four times a day. This was gradually increased to a daily total of 0.56 mg, reserpine and 0.14 mg. of protoveratrine-A. He became asymptomatic and had only minimal side effects, i.e. dryness of the mouth. His blood pressure gradually declined and fluctuated between 164/100 to 132/72.

\*From the Mercy Hospital, Portland, Maine and Veterans Administration Center, Togus, Maine.

\*\*Attending Physician, Medical Service, Mercy Hospital and Attending Gastroenterologist, V.A. Hospital, Togus, Maine.

\*\*\*Chief, Section of Gastroenterology, V.A. Hospital, Togus, Maine.

A repeat upper gastrointestinal series two weeks later showed a persistently deformed duodenal bulb with complete healing of the prepyloric ulcer. He was discharged on a modified ulcer diet, antacids, reserpine 0.14 mg., and protoveratrine-A 0.35 mg., four times a day. Over the following three months he had no abdominal complaints. His antihypertensive medication was reduced due to symptoms and findings of postural hypotension.

#### CASE REPORT NO. TWO

Togus V.A. (A 463) This thirty-four year old white male was admitted to the Togus V.A. Center on March 2, 1959, complaining of black stools and abdominal distress. The patient underwent a subtotal thyroidectomy for thyrotoxicosis at this hospital on April 12, 1956, and has a history of prolonged treatment over the years since WW II for severe generalized psoriasis with arthritis. Two months prior to admission, the patient was started on triamcinolone (Kenacort®; Squibb and Sons) therapy by his physician for the complaint of arthralgia in association with severe chronic psoriasis. The initial dose consisted of 4mg. triamcinolone TID. Three weeks prior to admission, the patient had noted excessive belching. Three days prior to admission the patient noted bright red blood in his stools and this occurred again the night before admission. On the morning of admission the patient passed two tarry stools. There was no hematemesis and at no time did the patient have actual abdominal pain. There was a past history of administration of cortisone for a few weeks after his thyroidectomy for control of his skin condition, and while the oral cortisone dose was being tapered off, the patient suffered an exfoliative phase of his dermatitis. At the present time, after triamcinolone was started, the patient's arthralgia virtually disappeared and his skin appeared to him to be better than it had been in years. Gastrointestinal series at this hospital was normal in 1954. Past history was otherwise non-contributory.

System review revealed a history of increased nervousness while on triamcinolone.

Physical examination revealed a blood pressure of 152/80. The patient was a stocky, middle-aged white male who did not appear acutely ill. There was extensive, diffuse psoriasis of the trunk and extremities. Abdominal examination was negative. Rectal examination revealed a jet-black guaiac positive stool.

Laboratory data revealed hematocrit 37; RBC, 3,720,000; hemoglobin 12.0 gm.; WBC 12,950, neutrophils 90, lymphocytes 8, eosinophils 2; urinalysis negative. Liver function tests were within normal limits, including BSP; stool, 4+ guaiac; BMR, minus 8%; 62 units of free HCL present after histamine.

Gastrointestinal series showed a large, 1.5 cm. protrusion of barium from the greater curvature of the antrum. Three subsequent serial gastrointestinal series showed healing of the previous gastric ulcer.



FIG. 3

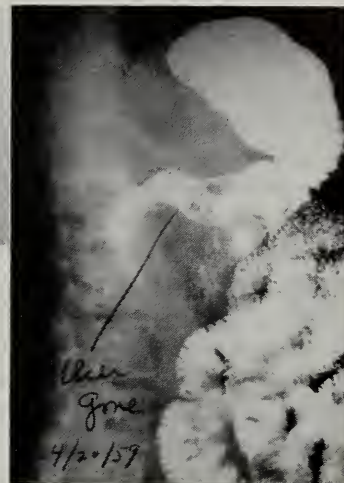


FIG. 4

FIGS. 3 AND 4. Case No. 2 Showing greater curvature antral ulcer and resultant healing five weeks later.

Electrocardiogram revealed evidence of myocardial damage.

Gastroscopy on March 26, 1959 showed a benign-appearing ulcer on the greater curvature of the antrum which appeared to have healed on repeat examination on April 9, 1959.

On admission the patient appeared to have suffered a mild gastrointestinal hemorrhage from a large, benign-appearing gastric ulcer located on the greater curvature of the antrum. Twenty-four hours after cessation of steroid therapy the patient began to suffer a flare-up of his psoriasis. Accordingly, triamcinolone was continued in a dose of 4 mg., BID throughout his hospital stay. The patient was continued on a program of strict bed rest, a bland diet, intensive antacid therapy, and was given an anticholinergic drug and a tranquillizing agent. The patient's gastric ulcer was completely healed radiologically and gastroscopically at the time of discharge, and on check-up gastrointestinal series on September 1, 1959, there was no evidence of a gastric ulcer. The patient was continuing his prophylactic medical ulcer regime, as well as steroid therapy. The severity of his psoriasis appeared to justify continuation of steroid medication.

#### DISCUSSION

A peptic ulcer, as defined in this paper, is distinguished from the superficial abrasions of the gastric mucosa, occasionally seen in gastric atrophy. The secretion of hydrogen ions is essential for without hydrogen ions and probably pepsin, a benign peptic ulcer does not exist. Confusion has arisen in the literature because of the now outmoded terms, "free and total acid." Titratable hydrogen ions from pH 0.9 to pH 3.5 have been called "free" and from pH 3.5 to pH 7.0 have been called combined. Acid, however, by definition, is the secretion of hydrogen ions. Although there may be no "free acid," the presence of some titratable hydrogen ions shows that a benign ulcer may exist. These difficulties can be avoided by testing gastric secretions



with pH paper or a pH meter. Should the pH be below 6.5, there is some secretion of hydrochloric acid. It is reasonable to assume that between pH 6.5 and pH 7.0 the hydrogen ions present may be due to lactic or pyruvic acid. While the etiology of peptic ulcer is in doubt, the necessity of hydrogen ions and pepsin has been proved. Treatment, although empirical, is successful if the basic principles of neutralization of hydrogen ions and pepsin and/or the decrease in their production are rigidly adhered to<sup>1</sup>. This is accomplished clinically by frequent feedings of food and/or alkali (milk and Maalox), and by the concomitant administration of anti-cholinergic medication. Anti-cholinergics, however, should be given to tolerance, that is — dryness of the mouth, blurring of the vision, or urinary difficulties. Dosages, sufficient to produce these side effects, do not cause complete achlorhydria, but rather a relative hypochlorhydria.

That a large emotional element exists in the formation of peptic ulcer has been known clinically for many years. In man, gastric secretions and gastric motility may be directly related and correlated with emotions.<sup>2</sup> Some investigators have successfully treated peptic ulcer with psychotherapy and no other form of medication. This psychic component in the past was treated by sedatives, and in more recent years it has been treated by "tranquillizers."<sup>11</sup> Rauwolfia and its derivatives have been used extensively for their "tranquillizing" and antihypertensive effects. They also stimulate gastrointestinal motility and gastric secretions. The mechanism remains unclear; but Schneider and Clark<sup>3</sup> were unable to demonstrate any blocking effect of atropine or methantheline bromide. They suggested that reserpine mediated its gastric secretory effect through a humoral or peripheral mechanism. The gastric secretory effect of reserpine appears to be directly related to the dose involved. Less than 0.32 mg. per day, orally, appears to have no effect.<sup>4</sup> With larger doses gastrointestinal hemorrhages have been reported.<sup>5-7</sup> This hemorrhage was associated usually with peptic ulcer although not always proved. Whether the ulcer was new or a re-activated old ulcer also was unclear. Most observers reporting gastrointestinal hemorrhage following reserpine therapy have recommended that it not be used in cases of suspected or demonstrated peptic ulcer.<sup>5-7</sup>

Hoffman,<sup>8</sup> however, in discussing the psychogenic aspects of peptic ulcer, stated . . . "If the degree of psychomotor activity were greatly reduced, less gastric secretions from psychogenic causes might more than offset any drug-induced secretion; and it would therefore be beneficial." He studied eighty-two patients with active duodenal ulcers, placing them on 0.125 or 0.25 mg. of reserpine, three times a day, orally. More important, they also were given anti-cholinergics and milk, every hour. Of these eighty-two patients, seventy-six did "well." He reported no bleeding episodes, but the length of treatment was unreported. Winkelstein<sup>9</sup> treated 144 patients (duodenal ulcer 121, gastric ulcer 9,

hiatus hernia with esophagitis 9, jejunal ulcer following subtotal gastrectomy 5) with reserpine 0.1 mg., four times a day, orally. He also used diphemanil methylsulfate 100 mg., four times a day. Patients were treated from one to four months. Ten were re-x-rayed after one month and "six showed healing." Fifteen patients had gastric analyses before, and one month after treatment. "None showed any increase in gastric acidity." There were no cases of bleeding reported in either series.

While reserpine in moderate doses increases gastric secretions and perhaps causes gastrointestinal bleeding, we do not believe that this by itself contraindicates its use in patients with peptic ulcer. The concomitant use of antacids, anti-cholinergics and diet are indicated. Reserpine may be continued, and the ulcer may be adequately healed, as shown by the case reported here.

The effect of ACTH and adrenal steroids on gastric secretions remains equivocal. Initial gastric secretory studies done<sup>10</sup> in 1951 on six normal patients, one gastric ulcer patient, and one duodenal ulcer patient, were interpreted as showing an increase in both acid and pepsin. Recently Kirsner<sup>11</sup> has found fault with the technique used in the study. Using a two-hour basal secretion, Kirsner found that nine out of ten patients, with ulcerative colitis and receiving large doses of ACTH or adrenal steroids, had no significant increase in gastric hydrochloric acid secretion.<sup>11</sup> Other authors also have been unable to find any significant increase in gastric secretions following the use of ACTH and/or adrenal steroids in humans.<sup>12,13</sup> Animal studies, while not completely comparable to man, have shown similar equivocal findings in regards to gastric secretions.<sup>14</sup> While gastric secretions, including acid and pepsin, may increase after ACTH or adrenal steroids, in a great majority of the cases this is not so.

Numerous authors have reported an increased incidence of peptic ulcer in patients receiving ACTH or adrenal steroids. A control study, however, has not been done. Overlooked also is that the patients receiving ACTH and steroids are under considerable stress due to the various disease processes involved. In naturally occurring duodenal and gastric ulcers normal plasma corticosterone and cortisol levels and a normal response to a standard intravenous ACTH test were obtained.<sup>15</sup> In this study the authors concluded that there was no abnormality of adrenal function in gastric or duodenal ulcer patients. Finally, in Cushing's Disease or Syndrome there has been no reported increase in gastric or duodenal ulcers.<sup>16</sup>

Should an ulcer occur during ACTH or adrenal steroid therapy, the continuation or discontinuation of the medication depends upon the basic underlying process; the peptic ulcer can be healed with standard therapy concomitantly with the use of steroids.<sup>17</sup> Over the past few years at the Togus V.A. Hospital we have medically treated six other patients with peptic ulcer and receiving ACTH and/or adrenal steroids with complete healing of the ulcer. Our patient, reported above,

with severe exfoliative psoriasis and a large gastric ulcer, is an example of this.

#### SUMMARY

Two patients are discussed; one having a prepyloric ulcer and receiving reserpine, the second receiving adrenal steroids and developing a large gastric ulcer. These ulcers were healed by medical therapy while the "ulcerogenic" drugs were continued. The effects of rauwolfia and ACTH and adrenal steroids on the gastrointestinal tract are discussed. The deciding factor is the clinical necessity for these drugs and not the peptic ulcer involved.

We are indebted to Dr. Fennell P. Turner, Chief of Surgery at the Togus V.A. Hospital, for his advice in the preparation of this paper.

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### Medical Prepayment And Our Social Philosophy

"A curious paradox of some contemporary social philosophy is the idea that man should spend what he earns for his pleasures rather than for what he needs. It is appropriate, so this reasoning goes, that he should buy a television set, a vacation in Florida or an outboard motor boat, because these are cardinal rights. But for something that he really needs, such as his life or his health, or the life of his child, someone else should pay. This may be the Government, his employer, his union, his great-aunt or anyone else who can be cajoled or coerced into paying the price for him. If no one else will pay for it, the doctor should serve him for nothing."\*

\*"The Challenge of Medical-Care Insurance," C. Marshall Lee, Jr., M.D., Assistant Medical Director, John Hancock Mutual Life Insurance Company, *The New England Journal of Medicine*, 262:7, pp. 332-42, Feb. 18, 1960.



# Cavernous Hemangioma

FRANCIS M. DOOLEY, M.D. and EUGENE P. McMANAMY, M.D.\*

Hemangiomas are tumors of independently growing blood channels which probably have their origin as embryonic rudiments of mesodermal tissue.

Generally speaking, there are two kinds of hemangiomas, cavernous and capillary. McCarthy and Watson<sup>1</sup> have classified them into eight groups: (1) capillary, (2) cavernous, (3) angioblastic, (4) racemose, (5) diffuse systemic, (6) metastasizing, (7) port wine stain, (8) hereditary hemorrhagic telangiectasis.

The diagnosis of superficial hemangiomas is not difficult. The commonest symptoms are tumor, swelling and cosmetic change.

The location of these tumors in the body are of some interest. According to Dockerty<sup>2</sup> et al, they occur in the upper extremity 59% of the time, and in the lower extremity 41% of the time.

It is reported that hemangioma can occur in every tissue of the body except the fingernails and hair. The lesions occur two to three times as often in the female as in the male, and are found more frequently in people under thirty years of age. Bailey and Kiskadden<sup>3</sup> stated that one-half to one-third of infants are born with some cutaneous vascular anomaly.

The etiology of hemangiomas is still a controversial subject. There are those who maintain that hemangiomas are congenital, and those who maintain that they are acquired through carcinogenic factors.

## CASE REPORT

C.D., a 32 year old female was admitted to the hospital about to deliver a normal pregnancy, and bleeding from a cavernous hemangioma of the right buttock. The hemangioma, present since birth, had been growing gradually, according to the patient, but during each of her four previous pregnancies the tumor had taken rapid spurts in growth. During the present pregnancy, it has grown much larger and rapidly reached its present size.

She has been unable to lie flat on her back for several months and now, with the approach of term, the lesion has become very tense, and, because of a recent laceration, there is frequent and persistent bleeding.

Examination of the patient on the first admission reveals a healthy white female nearing term of a normal pregnancy bleeding slowly from a large, tense, cavernous hemangioma situated in the center of the right buttock overlying the gluteal area. The tumor measured about 12 to 14 centimeters in diameter and elevated several centimeters above the normal surrounding skin. The

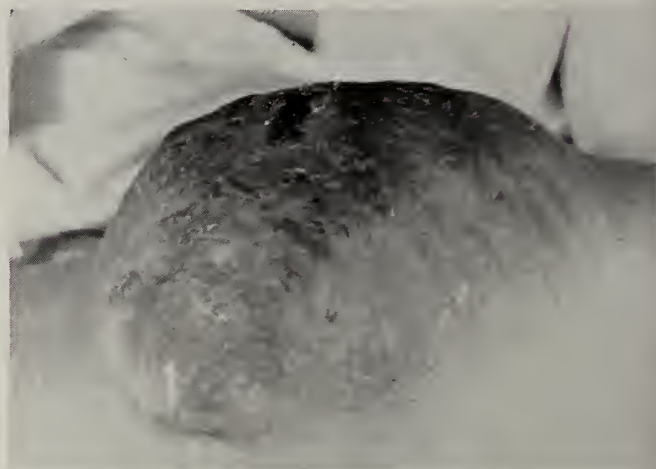


FIG. 1. Tumor Prior to Surgery. Close-up view.

center of this tense lesion contained an area of ulceration from which blood steadily oozed. The patient was required to lie on her left buttock and left side for the most part.

The danger of severe and perhaps uncontrollable hemorrhage through the already leaking abrasion of the hemangioma, which labor could initiate, raised the problem of the safest method of delivery.

In general, the indications for cesarean operation are fairly clear-cut, and relate to situations of cephalopelvic disproportion or to pathology involving the pelvis or its contents. There are other indications relating to functional difficulties of the labor mechanism, accidents of placental separation involving severe hemorrhage, etc. In the instant case an extraneous condition, having no primary connection with the physiology or pathology of pregnancy or labor, dictated that a cesarean operation be performed, since the procedure would present no immediate hazard to either mother or fetus.

Accordingly, through a low midline incision, a laparotomectomy was done. A nine pound twelve ounce male fetus was extracted without difficulty. At the close of the operation, the patient was turned on her face, and a compression dressing was applied to the hemangioma, which had already begun to shrink in size. Slow oozing from the abraded area of the hemangioma caused a sufficient anemia so that on the eighth postoperative day, a transfusion of one pint of whole blood was deemed advisable. The patient was discharged home on the 12th postoperative day, to return later for definitive surgery of the hemangioma.

Three months after recovery from her successful cesarean operation, the patient returned to the hospital for definitive treatment of the cavernous hemangioma.

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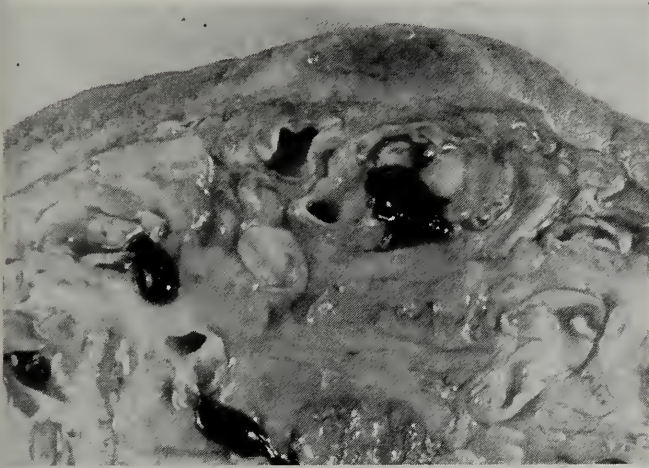


FIG. 2. Cut section of tumor.

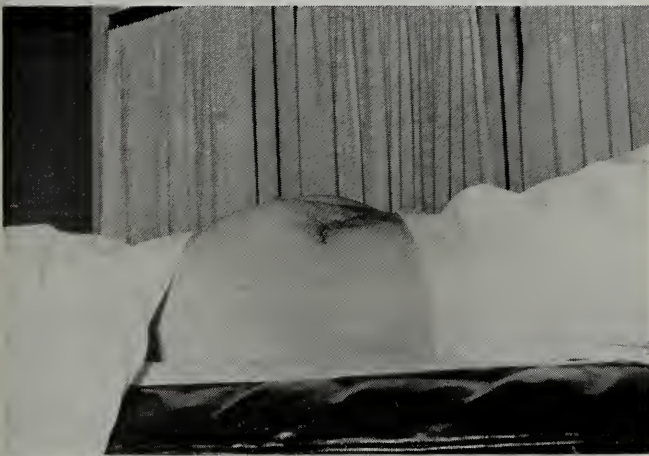


FIG. 3. Post operative wound.

It was decided that it should be excised rather than be treated by any other method. The examination of the hemangioma at the time of this hospital admission revealed that the lesion was somewhat smaller in dimensions than before, it was no longer bleeding, it appeared soft, and was easily compressible. It did pulsate, and a loud bruit was easily audible by stethoscopic examination.

The operation was performed in two successive stages. The first stage was the ligation of the tumor's major blood supply at its source. This procedure was imperative in order that the second stage, the excision of the hemangioma, could be done without fear of uncontrollable hemorrhage.

The abdomen was entered through the cesarean midline incision, and this gave excellent exposure to both iliac and femoral vessels bilaterally. The right hypo-

gastric was definitely larger than the external iliac, and greater in diameter than the hypogastric artery on the left side. Tapes were placed around the common iliac artery above, and the external iliac artery distal to the bifurcation of the iliac. Compression of the hypogastric artery caused no obvious vascular change in the right leg. However, when the tape about the hypogastric artery was used to occlude this vessel at its origin, it became obvious to an observer that the hemangioma lost its pulsation, failed to regain its turgor after being easily compressed, and there was a dramatic and sudden cessation of the bruit each time the hypogastric artery was compressed. To demonstrate this dramatic loss of bruit, a stethoscope had been taped over the tumor before the abdominal operation was begun. This was done as proof positive that the hypogastric artery was the major blood supply to the hemangioma. The hypogastric artery on the right was ligated doubly in continuity and, as a safety measure, it was not severed. After closing the abdominal wound, the patient was turned to the left lateral decubitus position, and the second stage was performed without undue incident. There were several small vessels encountered in the skin at the margin of the tumor, but it was easily excised. Its pedicle was readily secured between clamps as the vessels emerged through the fascia of the gluteus maximus. These vessels in the pedicle were of large calibre, measuring up to .5cm. in diameter. Following excision of the hemangioma, the wound was closed by approximation of the edges under considerable tension.

The patient made a full recovery from this operation, was well at the time of the last examination, and was happy once again to be able to wear clothing without fear of showing this large bustle-like protuberance over her right buttock.

#### SUMMARY AND CONCLUSIONS

1. A case of pregnancy complicated by a cavernous hemangioma is presented.
2. The indications for cesarean section are reviewed.
3. A classification and brief discussion of hemangiomas are given.

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# Fatal Case Of Measles

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## CASE PRESENTATION

R.S. was a five year old white male child, who was admitted in nearly moribund condition with high fever, deeply cyanotic, and rapid labored respirations. He had had a rash, considered by the family physician to be characteristic of measles, in view of a typical prodrome. The rash, first noted eight days prior to admission, had nearly subsided in the interim. He had not been particularly ill with the disease, but two days prior to admission, he developed a "cold," apparently with cough, runny nose, fever, and increasing difficulty in breathing.

His past history contained no significant details. He had apparently been well, and had not been troubled by the usual childhood diseases.

When he was admitted, the temperature was 104.8, the respirations 46 and labored, the pulse very rapid at 174, but regular, and he was cyanotic. He was responsive, however. Dry crusting about the nose and eyelids was present. The right ear was slightly injected. There were diminished breath sounds and a dull percussion not bilaterally. The examination of the heart was unremarkable, with no murmurs heard. A few rales were present in the mid and lower left lung fields. The abdomen was negative, the reflexes were normal, and there was no neck rigidity.

Accessory clinical findings showed a hematocrit of 35, and a white count of 13,000, polys predominating. The erythrocyte sedimentation rate was 36mm/hour. Urinalysis was within normal limits. An x-ray examination showed a bilateral patchy infiltration.

He was placed in an oxygen tent with Mistogen®, with some slight improvement in the color. But difficulty in breathing persisted, and there was abdominal breathing with retraction notable. The color became poor, even in oxygen, and the patient expired in about 36 hours.

## AUTOPSY FINDINGS

The lungs were heavy, the right weighing 270gm., and the left 320gm. There was clear fluid in each thoracic cavity. Consolidation by a grayish, slightly friable tissue was nearly universal throughout both lungs. The lungs tended to hold their shape when removed.

A marked enlargement of the right atrium and a slight enlargement of the right ventricle were noted. There was adherent ante mortem clot on the endocardial surface of the right auricular appendage. No microscopic lesion of the heart was found to account for this clot. The presumption was that it was due to acute cor

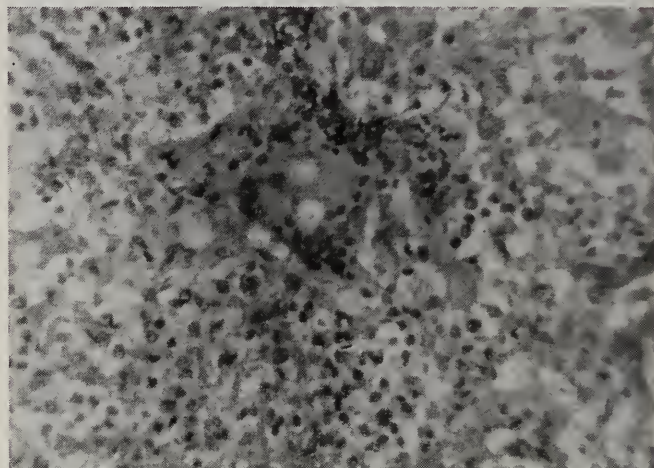


FIG. 1. The section is from the lung parenchyma. The characteristic large multinucleated cell with many barely perceptible inclusions occupies most of the field.

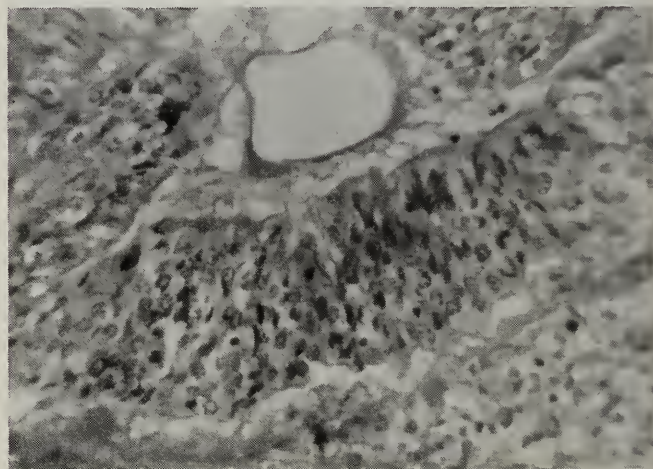


FIG. 2. High power view of a bronchiolar wall showing the remarkable metaplasia and hyperplasia of the mucosa. The bronchiolar lumen is outlined by a line of condensed intraluminal fibrin.

pulmonale with a deposit of fibrin, due to the eddying and slowing of the blood stream.

The spleen did not seem particularly enlarged, weighing 65gm. The lymph nodes were not enlarged.

On the microscopic examination of the lungs, a spectacular lesion was found. No aerated pulmonary tissue could be seen. There was wide-spread acute inflammation with air sacs filled with loose fibrillary fibrin, on which acute inflammatory cells were seen. There were numerous alveoli with homogeneous pink-staining material margined along the inside of the somewhat dilated sacs, typical of the so-called hyalin membrane

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lesion. There was marked hyperplasia of the bronchial epithelium of small bronchi, with an acute inflammatory reaction, both in the bronchial walls and through the bronchial mucosa. The hyperplastic lesion was particularly pronounced, with lumens of small bronchi nearly occluded by proliferating and somewhat metaplastic bronchial mucosa. An additional component of the inflammatory reaction, noted almost throughout the lung, were numerous foreign body type giant cells. These were very large, up to 100 micra, with multi-angulated shape, and composed of granular pinkish cytoplasm, in the center of which were accumulations of large amounts of small round nuclei. As many as 50 or 60 could be counted in most cells. Within the cytoplasm were numerous round pink-staining inclusions, about 3 to 4 microns in diameter.

Sections of spleen and appendix were carefully searched, in order to find the lesion of lymphoid tissue characteristic of measles; namely, the large multinucleated giant cells. These could not be found.

#### COMMENT

Here is a challenging question in this case — is one entitled to make a diagnosis of measles pneumonitis as a primary disease of the lung, in the absence of serological and viral culture tests?

With tissue culture methods perfected by Enders, many investigations into the nature of cytopathic effect of measles virus have been possible<sup>5</sup>. Very large multinucleated cells — both epithelial and reticuloendothelial — and intracytoplasmic eosinophilic inclusions are changes specifically induced by measles virus in infected tissue culture media.

This information has been correlated with the giant cell pneumonias described in the literature, beginning

with Hecht in 1910, and with the findings of multinucleated cells in lymphoid tissue in presumed cases of measles. Many investigators<sup>1,3</sup> feel that the presence of these giant cells may be considered to be pathognomic of viral pneumonitis, due to measles virus.

Of course, not everyone who develops pneumonia as a complication of measles is doomed. Meade<sup>2</sup> feels that, while half of measles cases have demonstrable x-ray changes in the lungs, only 1 to 2% may develop clinical pneumonia. This is usually a prolongation of cough and fever beyond the rash, and is rarely fatal. There is some difference of opinion as to the relative frequency of the primary virus etiology,<sup>2,4</sup> but Meade contends that it occurs fully as often as secondary bacterial invasion. Regarding the differential diagnosis, the absence of leukocytosis and the early development of the pneumonia prior to, or adjacent to the rash are distinguishing features pointing to a viral etiology.

In summary, this is a fatal case of measles, a rare occurrence, and considered in this instance to be due to a primary viral (rubeola) pneumonitis.

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# Clinico-Pathologic Correlation: Duodenal Atresia

## PANEL

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### CASE NO. ONE

This infant was born at 36 weeks gestation by caesarean section. The premature labor was complicated by cephalopelvic disproportion. The prenatal course was essentially unremarkable. No history of early viral infection or other disease in the mother was elicited. Hydramnios developed during the last eight weeks and was very pronounced at delivery.

Early examination revealed harelip and cleft palate. Because the patient began to vomit after two days, an x-ray examination was done. It revealed gas in the stomach, but no small bowel or large bowel gas. Operation was done with the preoperative impression of small bowel obstruction.

At operation, the obstruction was found to be an atresia of the duodenum, and a gastroenterostomy was performed. Recovery was gradual and complicated by feeding and breathing problems related to the patient's facial defects. During his course, additional anomalies came to light, including microcrania and presumable microcephaly. Aplastic changes were noted in the left hip.

After recovery, the patient was discharged, and then readmitted twice for observation of hyperthermia and twitching. Marked variation in body temperature, without apparent cause, was noted.

The terminal admission, at 15 weeks of age, was for the purpose of undertaking a repair of the facial defect. This was done, but the baby died shortly afterward.

### AUTOPSY FINDINGS

Apparently the immediate cause of death was pneumonia. The right lung weighed 40gm. and the left 35gm. with edema fluid expressible from the cut surfaces. On microscopic examination, alveoli were filled with edema and polys, with fibrinous exudate in the bronchi.

In the abdomen, the gastroenterostomy area was found to be in order with a wide stoma. The lesion was, indeed, a duodenal atresia, and with obstruction proximal to the ampulla of Vater. The common duct entered here. The pancreas was misshapen, taking on a globoid character. The malrotation of the gut was unusual, in that the stomach was disposed to the right upper quadrant, and splenic tissue — 3 spherical masses of varying size up to 1cm. in diameter — was found

in the right upper quadrant. Otherwise, the usual malrotation picture obtained — that is, small bowel in the right, and large bowel with long mesentery in the left side of the peritoneal cavity, with the cecum in the epigastrium and ileum, entering it from the left. Dextro-position of the stomach in malrotation is uncommon, but is recorded.<sup>1</sup>

Microcephaly was verified with the finding of marked cortical aplasia. The frontal lobes were not identifiable as such, and the cortical tissue was fused across the midline anteriorly. Following is a list of the congenital anomalies:

1. Duodenal atresia
2. Malrotation of gut
3. Dextro-position of the stomach
4. Cortical aplasia, central nervous system
5. Anterior facial cleft (Aplasia of premaxilla)
6. Partial aplasia of left hip

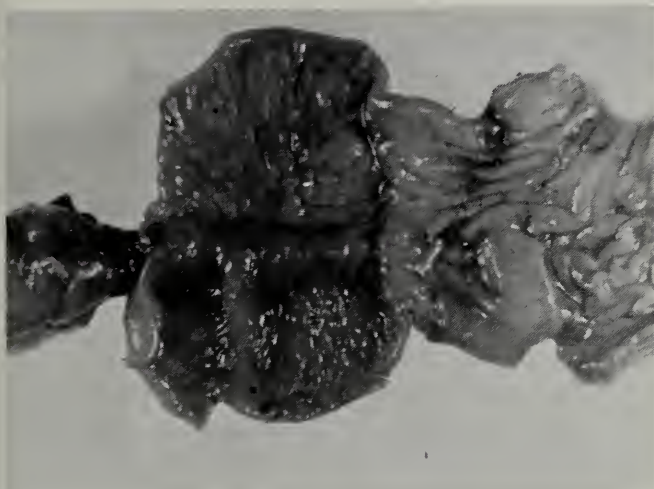
### CASE NO. TWO

This female infant was born at term after an uncomplicated prenatal course, except for the development of hydramnios. The labor was prolonged, and the infant delivered occiput posterior, with the cord tightly twisted around the neck and intensely engorged. The relation of this to the hydramnios was considered.

However, the infant at birth showed good color and cry, and there were no abnormalities on physical examination. Although she was noted by the nurses to spit up considerably, she remained strong and active with a lusty cry. There was a small, green stool on the 2nd day of life.

When she was re-examined on the 3rd day of life, she was noted to be jaundiced, and slightly dehydrated. The bilirubin, at this time, was 22mg.%, the hematocrit 61, with only 1% nucleated red blood cells, and the Coombs test was negative. An x-ray of the abdomen showed gas in the stomach and duodenum, with none in the remainder of the intestine. Duodenal obstruction was diagnosed, and surgery was elected.

It was felt that before surgery, an attempt should be made to lower the bilirubin by an exchange transfusion. Shortly after this was begun the baby expired, and attempts to revive her, including cardiac massage, were to no avail.



Gross photo of stomach and duodenum in Case No. Two. At the right is stomach. The duodenal first portion is the greatly dilated segment in the center. To the left is the atretic portion.

#### AUTOPSY FINDINGS

Autopsy showed a markedly icteric 1900gm. female infant. The significant findings were in the upper G.I. tract. The stomach was slightly distended and thick-walled. The 1st portion of the duodenum was greatly distended to a circumference of 6cm., compared with a 1cm. circumference of the jejunum beyond it. There was no egress from the duodenal bulb, and connecting the 1st and 2nd portions was a solid, narrow, fibrous cord with pancreatic tissue all about it. The ampulla of Vater was identified entering the duodenum just distal to the atretic portion. The extra-hepatic biliary system was patent. Green bile was present in the gall bladder.

No other congenital anomalies could be found. The yellowish-tan 90gm. liver, with normal parenchyma and duct system microscopically, showed only accumulations of bile within cells and canaliculi. There was a well-developed hemoglobinuric nephrosis, considered to be on the basis of shock and electrolyte imbalance in the absence of hemolytic anemia.

#### COMMENT

The most striking clinical coincidence in these two cases of duodenal atresia in the newborn was the observation in each of hydramnios. Amniotic fluid usually varies in amount at birth from 500 to 1000cc.,<sup>1</sup> and thus hydramnios — excessive accumulation of fluid — apparently obtains when amounts in excess of this are present. In practice, it is difficult to estimate the quantity of fluid with any exactness. It is probably not of clinical significance, however, until amounts in excess of 3 liters<sup>3</sup> are present, and such large amounts may attract attention.

The origin of the amniotic fluid is not clearly understood.<sup>1,4</sup> Contributions to it by transudates of the uterine wall, possible secretion by cells of the amnion

in early pregnancy, and fetal urine in late pregnancy are postulated. Control of its level seems somewhat clearer. As pointed out by Mengert and Bourland,<sup>4</sup> the natural experiments afforded by malformed fetuses tend to indicate that the amount of fluid is maintained at proper levels by absorption of swallowed fluid by the fetus.

Thus, infants with massive obstruction to the absorptive surfaces (e.g.; duodenal atresia, tracheo-esophageal fistula with esophageal obstruction) or defective swallowing mechanism (e.g.; anencephaly) would theoretically be the issue of pregnancies complicated by hydramnios. Actually this is the case, and when multiple pregnancy, maternal diabetes, hydropic erythroblastosis fetalis, and maternal circulatory disease are ruled out as a cause of hydramnios, a malformed fetus is almost certainly responsible. According to Eastman,<sup>3</sup> more than 25% of patients with amniotic fluid in excess of 3 liters give birth to fetuses of this sort.

This becomes of great practical importance. Prompt recognition of the obstruction and immediate operation offer the only hope of survival in newborn infants, where the margins of safety in fluid and electrolyte status are so narrow.

It was not feasible in the operated case (Case No. 1) to perform a duodeno-jejunostomy. Gross<sup>2</sup> recommends as direct an anastomosis as possible in intestinal atresias, and avoidance of temptation to deal in some way with the atretic area; for example, the local treatment of diaphragms obstructing the lumens. The gastroenterostomy is unsatisfactory in duodenal atresia, because the blind duodenal loop remains distended, and food churns about in it after passing the pylorus, with the production of sufficiently distressing digestive disturbances to occasion reoperation in many cases.

Sharing Gross' concern that surgeons may be tempted to deal with local situations, Javett and Ellison,<sup>5</sup> in discussing a brief experience with duodenal stenosis, warn against simply resecting congenital bands that may be responsible for obstruction by mechanical external interference. Such areas should be bypassed by an entero-enterostomy.

The two instances of duodenal atresia which have been presented are then, in summary, interesting and rare congenital anomalies. But they are not simply museum curiosities. We have noted that duodenal atresia may exist as an isolated anomaly, and be remediable by surgery if a sufficiently early diagnosis can be made. In this regard, the observation of polyhydramnios clinically becomes of great importance.

#### DISCUSSION

Q.—I noticed in the second baby that the serum bilirubin was 22mg.%, but that the Coombs test was negative. Was ABO incompatibility ruled out?

A.—Yes, the mother was A, Rh+ and the baby was O, Rh+.

Q.—How do you explain the jaundice then?

A.—Premature babies, and babies with intestinal atresia



or severe disease of any kind are much more susceptible to jaundice than the average full-term healthy infant. The reason for this is a deficiency in an immature or depleted liver of the enzyme glucuronyl transferase. The enzyme is responsible for converting the bilirubin to a protein bound form for urinary excretion, and its deficiency leads to an accumulation of bilirubin in the blood. Dehydration, inanition, and moderate shock probably were all important in causing the enzyme lack, and hence the jaundice.

Q.—What attempts were made to combat the dehydration and shock?

A.—The baby was fed intravenously via a scalp vein. Her fluid therapy was planned in the following way: (1) Give I.V. amounts equal to what a three day baby would ordinarily be taking by mouth; in this case, about 10 ounces or 300cc daily. (2) Replace daily fluid losses, as measured by gastric suction. (3) Replace all losses with a dilute electrolyte solution containing sodium, chloride, potassium and sugar. In this case, the fluid used was Butler's solution, (which is marketed as Iono-sol B with 5% Dextrose®) diluted with 5% Dextrose. This gave an electrolyte solution containing (approximately):

Sodium 27 meq/liter

Chloride 22 meq/liter

Potassium 12 meq/liter

Also lactate, phosphate, and 5% sugar.

However, it is obvious that despite our therapy, the baby was not in good electrolyte balance. That is why it is important to operate on these babies on the first day of life.

Q.—What are the things which we can look for on the first day of life, to recognize this problem?

A.—Hydramnios in the mother is the first tip off. Other helpful hints are considerable mucous, and, of course, persistent vomiting.

Q.—I notice that the protocol did not mention barium enemas. Dr. Orvar Swenson has an article in one of the January, 1960<sup>6</sup> issues of the New England Journal of Medicine, in which he feels barium enemas should always be done in intestinal obstruction in the newborn. Do you agree with this?

A.—In my own limited experience of probably 8 or 10 cases of obstruction in this age group, I do not feel a barium enema would have altered the diagnosis or therapy in a single case. However, Dr. Swenson feels, as you know, that almost 50% of the cases of obstruction in this age group are due to aganglionic megacolon, and this can only be picked up by barium enema. The immediate therapy for this, of course, is colostomy rather than enteroenterostomy. I think that I agree that

the best course of action is to do barium enemas on all of these babies.

Q.—Why can't you tell the level of obstruction by flat plate?

A.—Sometimes you can, if it is very high. But if it is lower down, there may be confusion, as a dilated loop of small intestine may look exactly like a dilated loop of large intestine in newborn babies.

Q.—What were the findings at operation in the first case?

A.—The entire large and small intestine were collapsed and free of air. There was malrotation of the gut, including the stomach. The liver looked strange, with the gall bladder to the left in the midline rather than to the right of the falciform ligament. Stomach and splenic tissue were on the right. The pancreas assumed a rather prominent place anteriorly, tail to the right and head to the left, overlying an S-shaped abnormal duodenum. Portal triad members appeared anteriorly, but their exact course could not be followed because of their small size and abnormal position of the pancreas. I thought the stenosis of duodenum was at the third portion, but I see from the autopsy protocol that the Ampulla of Vater was found beyond the obstruction. At any rate, to avoid damage to the abnormally placed, tiny portal triad structures, I did an anterior gastro-enterostomy, instead of the usual duodeno-duodenostomy.

Q.—Is there food for thought for obstetricians in these cases?

A.—Yes indeed. We should re-emphasize the importance of our notifying the physician in charge of the newborn of an abnormally large amount of amniotic fluid. As we have seen, really convincing signs of intestinal obstruction may be slow in developing, thus delaying the x-ray examination which will diagnose this type of case beautifully. Also, excessive fluid noted during checkups warrants an x-ray examination before delivery.

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# Clinico-Pathologic Correlation: Cytomegalic Inclusion Body Disease

PANEL: HARRY E. DAVIS, M.D., Pediatrician

ARTHUR R. CLEMETT, M.D., Radiologist

GEORGE O. CHASE, M.D., Pathologist

This white female infant was the product of a normal spontaneous delivery at term, following an entirely unremarkable prenatal course. It was the seventeen year old mother's first pregnancy. She was Rh positive, with a negative serological test for syphilis.

At birth, no significant abnormality was noted. The baby weighed six pounds and two ounces. However, there was rapid development of clinical icterus in less than twenty-four hours. The spleen was palpable. The baby was not toxic, appearing alert and active.

Accessory clinical investigation showed a negative x-ray of the skull, a bilirubin of 5.3mg%, hematocrit of 70%, with no nucleated red blood cells. There was a negative Coomb's test. The cephalin flocculation was 2+. The baby's blood type was A, sub group 2, Rh positive.

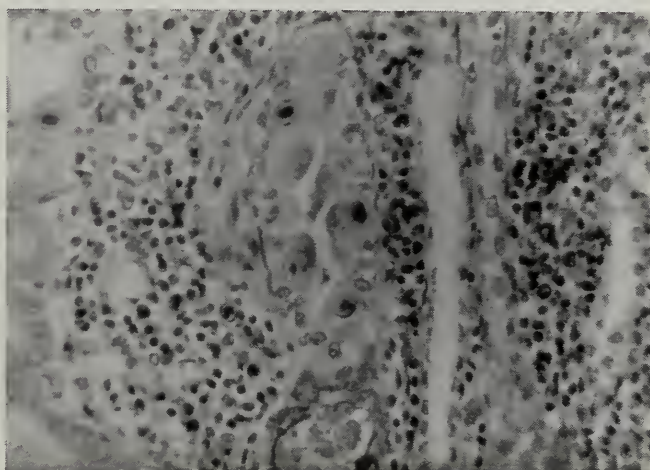
Although somewhat jaundiced, the baby's condition did not appear particularly serious, and the baby was accordingly discharged home after five hospital days.

However, the baby did not prosper at home, and her jaundice appeared to deepen clinically. She developed a petechial rash. There was no temperature elevation. She was readmitted to the hospital on about the 10th day of life because of the rash and jaundice. A urine examination was performed, with cytomegalic inclusion bodies in mind, but none were found. The platelet count was 300,000.

The day after admission, the baby developed a cyanotic episode, and rales were heard at the left lower lung field. With the impression of a pneumonitis, the baby was treated with Chloromycetin.<sup>®</sup> Although still without temperature elevation, the course after onset of the pneumonia was rapidly downhill, with progressive weakness and lethargy. Death occurred on the 13th day of life.

## AUTOPSY FINDINGS

The baby was icteric with petechial and ecchymotic skin hemorrhages. Red hemorrhagic-appearing areas of consolidation were noted bilaterally in the lungs. The 135gm. liver was green, cutting with slight increased resistance to show homogeneous parenchyma. The extra-hepatic biliary system was dissected, revealing normal structures without stenosis, atresia, or agenesis.



Renal tubule with greatly enlarged tubular cells. Note the dark-staining round bodies in the nuclei. The nuclear chromatin is condensed into a peripheral ring.

Both the artery and portal vein could be identified. No lesions were noted, and in particular, there was no portal vein thrombosis. The kidneys showed areas of hemorrhage. There was yellowish discoloration in the brain confined to the basal ganglia areas.

The microscopic examination of the kidneys showed the lesion which is the hallmark of the disease of which the patient probably died. Cells of the proximal tubules showed enlargement which was quite pronounced, and within the nuclei were round, blue-staining, dense inclusions, with a clear zone about them. The nuclear chromatin material was confined to a rim adjacent to the nuclear membrane. There were foci of hemorrhage in the kidney as well, and one area of infarction which was fairly well outlined.

The small ducts and canaliculi of the liver were plugged with inspissated bile in many areas. There was considerable inflammatory reaction in the portal fields, and the ducts appeared somewhat degenerate. The hepatic parenchymal cells did not show any significant lesion.

Immediate cause of death could be found in extensive hemorrhagic phenomena in the lungs, with congestion of the septal blood vessels and leakage of red cells into alveoli.



## COMMENT

The clinical conduct of this case resolved itself into the frequently exasperating routine of discovering the etiology of jaundice in the newborn. Clinical observations and laboratory findings seemed to rule out hemolytic disease of the newborn, septicemia, and bile duct obstruction. It is to the great credit of the clinicians concerned that a request arrived at the laboratory to examine the urine for exfoliated renal tubular cells showing inclusions. The laboratory staff did not cover themselves with glory. Cytomegalic inclusion body disease has been diagnosed before death only during the last five years, according to Feddiman, cited by Guyton, et al.<sup>1</sup> It requires the observation of exfoliated cells in any of a number of materials — saliva, gastric content, urine, for example — which show a dense, dark-staining, centrally-situated intra-nuclear mass surrounded by a halo or clear space, with nuclear chromatin confined to a rim around the periphery.

If the cells are not found, however, the explanation is to be had in a phenomenon generally recognized to apply to all exfoliative cytology; that is, that the shedding of the suspect cells may be irregular and inconstant. Thus, in the cases cited by Guyton, initial examinations early in the course did not reveal the cells.

This observation of cytopathogenic effect, nonetheless, remains the sine qua non of the diagnosis, since we learn<sup>1</sup> that growth of the virus has been accomplished from a number of materials, and from people not necessarily ill with the disease. In addition, complement fixing antibodies have been demonstrated in 81% of sera in a random selection of people over 35 years of age.

It is to be noted that the serum bilirubin level was not high, and re-emphasizes the observation of others<sup>2</sup> that there is no constantly dependable correlation between the apparent clinical jaundice and the serum bilirubin. There is no entirely satisfactory explanation for this, but certainly coloring of the skin depends upon factors of diffusibility and tissue factors, and not entirely upon the level of the chromagen in the serum.

A welter of clinical observations have been made in patients with cytomegalic inclusion body disease,<sup>1</sup> and include purpura, small size at birth, hemolytic anemia, jaundice, hepatosplenomegaly, cerebral calcification and chorioretinitis. In a study of the features in reported cases, one is unable to put together a series of findings to constitute a syndrome, so that otherwise unaccountable jaundice with the appropriate cytopathogenic phenomenon seems a reasonably justifiable diagnostic criterion. In this instance, hepatosplenomegaly, jaundice, purpura, and a debility predisposing to infection which killed the infant, characterized the illness. The pathological microscopic picture of cytomegalic nuclear inclusions can be found in adults dying of various ill-

nesses.<sup>3</sup> It has not, however, been suggested that the virus has been a cause of death, or even a cause of significant morbidity. Thus, it seems legitimate to harbor a certain skepticism that in this or any reported instance of cytomegalic inclusion body disease in infants, the virus is the etiologic factor in the patient's illness.

In summary, the story of a newborn infant with jaundice of slight degree, who died in the late neonatal period, has been presented, in which the autopsy showed anatomical evidence of cytomegalic inclusion body disease.

## DISCUSSION

Q.—What are the x-ray findings in cytomegalic inclusion body disease?

A.—Generalized sclerosis of bone in the neonatal period, with atrophic bone changes developing after several months, has been described.<sup>6</sup> Such changes, however, are quite non-specific. The most pertinent radiologic findings have to do with the skull and central nervous system. Brain involvement in cytomegalic inclusion body disease is said to occur in about 20% of the cases. These may show microcephaly which, again, is a non-specific finding, although cytomegalic inclusion body disease should be included in the differential diagnosis of the etiology of all cases of microcephaly.

There have been a number of reports of intracranial calcification in C.I.D.<sup>1,4,5,6</sup> These patients show diffuse calcifications outlining the lateral ventricles. The calcification occurs in areas of subependymal gliosis. This apparently has been reported only in C.I.D. and is believed to be virtually pathognomonic.<sup>5,6</sup>

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# Intussusception After Meckel's Diverticulectomy

## A Case Report

WILLIAM L. MACVANE, JR., M.D.\*

Although Meckel's diverticulum is the most common, specific, etiologic factor in the intussusception of infancy and childhood<sup>1,2,3</sup>, intussusception following the excision of a Meckel's diverticulum is a rare enough transposition of the usual course of events to warrant reporting the following case:

### CASE REPORT (Mercy Hospital — No. 65118)

This 11 months old male child was admitted to the Mercy Hospital on 1/8/53 because of a copious bloody bowel movement at about 3:30 P.M. on the day of admission. The child was seen in the home by a Pediatrician, and the diaper was found to contain fairly bright blood in large amounts. The child had been perfectly well and had had no pain. The doctor made a diagnosis of Meckel's diverticulum and sent the patient into the Mercy Hospital. Past history revealed that the child had been born 11 months previously in the same hospital with birth weight of 7 pounds. Feeding history was negative except that the patient ate meat but no eggs and had not had vitamins since two or three months of age. Family history revealed the father, mother, and one sibling living and well. Physical examination revealed a good, active infant, looking pale, but in no distress, and was negative, except that the fontanel admitted two fingers. Rectal examination revealed no polyps, no fissure, and no blood on the examining finger. Impression was bleeding Meckel's diverticulum. Admission blood count was 4,050,000 with a hemoglobin of 72%.

While under observation in the hospital, no more bowel movements were recorded but on 1/11/53 because he seemed somewhat more pale, a repeat blood count was done. Red count was 3,250,000 and the hemoglobin was 51%. A transfusion of 250ccs. of whole blood was started through a cut down in the ankle, and the patient was taken to the operating room.

An exploratory laparotomy revealed a Meckel's diverticulum about two feet from the ileocecal valve. The entire small and large bowel beyond this point was filled with dark blood. The Meckel's diverticulum was clamped across and the base was inverted with a continuous intestinal catgut suture, and a second layer of interrupted 4.0 silk sutures. Pathological report on the specimen revealed a small area with gastric epithelium and a short distance from the gastric epithelium there was an ulcer in the intestinal mucosa.

Post-operatively the patient did very well, except for marked dehydration on the second post-operative day, which was treated with intravenous fluid. The patient continued to have bloody stools but otherwise responded to the intravenous therapy. On the fourth post-operative day, the abdomen became markedly distended and x-ray revealed small bowel gas and fluid levels. No abdominal masses could be felt. It was felt that the child had intestinal obstruction due probably to adhesions, either at the site of the Meckel's diverticulectomy or to the abdominal wound, therefore an exploratory laparotomy was done through the old incision. At operation the small bowel was found to be distended with air and fluid and the area of excision of the Meckel's diverticulum was perfectly intact and the lumen of the bowel distended both above and below this point. After the bowel had been decompressed with suction through an enterotomy below the area of the Meckel's excision an ileoileocecal intussusception was found in the right lower quadrant. This was easily reduced manually and no tumor or polyp could be palpated.

Post-operatively the child did very well. He was kept on intravenous fluid supplements for three days and continued to have some diarrhea for several days. The abdominal sutures were removed on the 8th post-operative day, and the patient was discharged.

### DISCUSSION

Although Meckel's diverticulum has been the most common, demonstrable, etiologic agent in most large series of intussusception in infants<sup>1,2,3</sup> the etiologic agent in 90% to 95% of the childhood cases is still unknown. It has been suggested that changes from milk to that of a more solid diet or an acute enteritis is the most significant etiologic factor. This opinion, although held by the majority of the writers, is not concurred in by Kahle and Thompson<sup>6</sup> who point out the fact that disturbed intestinal function may as well be a manifestation of intussusception as its initiating cause.

Sparkman<sup>5</sup> has stated that certain types of acute abdominal disease, especially of the alimentary tract, are prone to develop following unrelated operations, and lists acute colicystitis, esophageal and gastric perforation, acute pancreatitis, appendicitis, and volvulus as conditions which have been reported as following various, unrelated operations. He states that Jellinghaus cited hyperperistalsis as a causative factor in a case of volvulus of the small bowel which followed a Caesarean section and he says, "It may be stated that increased

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peristaltic activity is as regular a feature of the post-operative period as ileus."

Although the child in this case was a healthy, well-nourished, and well-developed specimen, typical of those in whom intussusception is most frequently found, it is felt that in addition to the usual post-operative changes in the motility and liquid content of the bowels, hyperperistalsis could have been initiated by the irritation of the blood left in the bowel and to a lesser extent perhaps by the unaccustomed hospital formula on which he was placed. If the components of the alimentary tract are more susceptible to acute colic during the post-operative period than at other times as Sparkman suggests, it is surprising that intussusception has not been reported more frequently as a post-operative complication.

Goldenberg<sup>4</sup> reports two cases of post-operative intussusception in his series. One child had an ileocecal colic intussusception, 19 days following a Ramsteadt operation, and the other patient, a 53-year-old woman, had a jejunal intussusception four days following lysis of pelvic adhesions for small bowel obstruction.

#### SUMMARY

1. A case of post-operative intussusception four days

following excision of a bleeding Meckel's diverticulum is presented.

2. It is suggested that the hyperperistalsis of the post-operative state, the irritation of the blood in the intestinal tract, and a change in formula may have acted as possible etiologic factors.

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8. Anti-inflationary curbs to maintain the purchasing power of fixed pension and annuity benefits.

# Observation Of National Diabetes Week In York County

MELVIN BACON, M.D.\*

The twelfth annual observation of National Diabetes Week, sponsored by the American Diabetes Association, was observed countrywide this year from November 15 through 21, 1959. Its purpose was the education of the public concerning diabetes and its detection. It is believed that there are one million known diabetics in the United States and another million unknown diabetics. It is this latter group that this association, through its affiliates, is attempting to discover.

An all-out drive in observance of this period for the fifth year was conducted by the York County Medical Society under the directive of its physician members. Because of the success attained in these drives, it was decided to present the plan utilized with the results obtained by this group for 1959. Special mention is made here of the local plan for Sanford and other towns which enjoyed tremendous success and which will be described later.

Seventeen physicians were selected to carry out programs for their respective areas. They are as follows: Melvin Bacon, M.D., Sanford; Anthony M. Bonanno, M.D., Berwick; Lester Carpenter, M.D., Limerick; J. Robert Downing, M.D., Kennebunk; S. Dunton Drummond, M.D., Bar Mills area; Robert F. Ficker, M.D., Kennebunkport; Herbert J. Hopkins, M.D., Old Orchard; Leon R. Jellerson, M.D., North Berwick; Charles W. Kinghorn, M.D., Kittery; Robert LaFond, M.D., Saco; Alexander W. Magocsi, M.D., The Yorks; Paul C. Marston, M.D., Kezar Falls and Cornish areas; Marion A. K. Moulton, M.D., West Newfield; John J. Murphy, M.D., South Berwick; Carl E. Richards, M.D., Alfred; Gerald R. Smith, M.D., Ogunquit and Wells and Leopold A. Viger, M.D., Biddeford.

## PLANS

Plans called for free examination of urine for the detection of sugar by all members of the York County Medical Society and by the following hospitals in the county during this period: Buxton-Hollis Hospital, Bar Mills; Goodall Hospital, Sanford; Notre Dame Hospital, Biddeford; Webber Hospital, Biddeford; York Hospital, York Village and U.S. Naval Hospital Kittery.

Tests for sugar in the urine were made with Benedict's, Sugar Test Denco®, Testape®, Clinitest® or Clini-

stix® methods. In addition all persons showing glycosuria had the opportunity to have blood sugar tests performed at nominal fees upon referral by their personal physicians to the above-mentioned hospitals. Public health nurses conducted detection and educational drives in areas where there were no physicians. A plan utilized in their various areas will be described later. They distributed literature to the school children to take home to their parents. In addition, literature was given to adults who participated in these various programs including the teachers and health council members.

The various towns which had no physicians were under the leadership of the following nurses:

Acton, Lyman, Shapleigh, Eliot — Mrs. Maria Clements, R.N.; Lebanon — Mrs. Louise Horne, R.N.; Waterboro and Dayton — Miss Shirley Benson, R.N.

All the drug stores in the county served as collection and testing centers during this time.

## PUBLICITY

Various media were used for publicity. Trailer movie featuring a one-minute short on diabetes by well-known personalities such as Jimmie Gleason, Ed Sullivan, John Daly, Carole Haney and Dave Garroway were shown at various theaters in Biddeford, Saco and Sanford. Several thousand people attended these theaters and saw at least one of these films shorts.

An all-out radio drive was conducted to stimulate public interest in this disease. Radio Programs with talks and spot announcements on diabetes were presented again this year over stations WIDE in Biddeford, Maine; WWNH in Rochester, N. H.; WHEB in Portsmouth, N. H. and WSME in Sanford, Maine. Several physicians participated in this part of the program which included talks on diabetes.

Three hundred and twenty-five posters were distributed all over the county and indicated the centers for the diabetes tests. In addition, 39,200 diabetes pamphlets were distributed at the physicians' offices, at various hospitals, at meetings, in industries, schools, the U.S. Navy Yard and other detection centers.

Newspaper publicity was utilized to the utmost. Papers gave generously of their space and include the following participants: The Sanford Tribune, The Kennebunk Star, The Biddeford Journal, The South Berwick Chronicle, The York Weekly, The Kittery Press, The Portland Press Herald and the Portsmouth (N.H.) Herald.

\*Diabetes Committee of the York County Medical Society consists of Melvin Bacon, M.D., Chairman; Carl E. Richards, M.D. and Marcel D. Ouellette, M.D.



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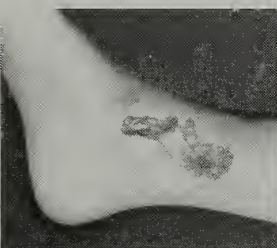
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... resolved with  
VARIDASE?



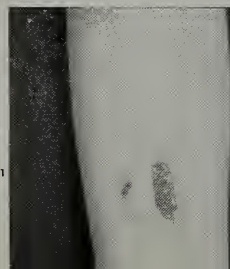
# **INFLAMMATORY DERMATOSIS**

rapidly spreading  
rhus dermatitis  
healed within  
a week?



# **INFECTED LACERATION**

marked reversal  
in 3 days...  
returned  
to school...  
closure advanced?



# **THROMBOPHLEBITIS**

back on his feet  
in a week after  
recurrent episode?



# **REFRACTORY CELLULITIS**

normal routine  
resumed after 4 days  
of VARIDASE?





Interesting detection programs were carried out by various industries in York County. The participants included the Pepperell and Saco-Lowell Mills in Biddeford, the U.S. Navy Yard in Kittery, the Waterboro Tannery in Waterboro, Maine, and all the industries in Sanford. The results obtained will be described later in this paper in a comprehensive report.

A feature of the county's program was an informative exhibit which was on display at the New England Diabetes Fair in Boston on November 17 and 18, 1959. The display consisted of a series of posters which depicted the type of program and results obtained in the detection and educational drive on diabetes in York County.

### RESULTS

The incidence of glycosuria was found to be 115 cases or .7 percent of the 15,885 persons tested for sugar in the urine. Of the 115 cases of glycosuria, 33 persons were known to be diabetics. The remaining 82 cases were newly discovered glycosurics of which at least 40 were newly discovered diabetics.

TABLE — RESULTS OF 1959 DIABETES DETECTION DRIVE IN YORK COUNTY

Type of Program	Number of persons Tested for sugar	Number of Positive Tests for Glycosuria
Private Physicians	1805	29
Detection Centers	2104	43
Hospitals	1248	3
Industry	6853	8
Schools (Public & Parochial)	3751	27
College and Faculty	88	5
Town Employees	36	0
	<hr/> 15,885	<hr/> 115

The small number of positives found in industrial and hospital groups is due in part to pre-employment examination.

In order to illustrate how a successful venture in diabetes detection and education may be carried out in a specific community, the program of Sanford, a town of 15,000 people, is presented. In Sanford concerted detection and educational drives were made in industries, the schools, the Diabetes Fair, business establishments and with the town employees.

### THE DIABETES FAIR

The Diabetes Fair served as a diabetes detection and education center which was attended by 1,083 persons. The Fair was held at the Sanford Town Hall, Tuesday and Wednesday, November 17 and 18, from 12 noon to 8 P.M. There were free tests for sugar in the urine, free chest X-rays, free blood pressures and free literature. Admission to the Fair was also free. Blood pressures were taken by Community Health nurses and 597 men and women were checked. These were in the age group from 40 to 70. Blood pressure

was considered abnormal if the systolic pressure was over 150mm. or the diastolic pressures were 90mm. or over. If the pressures attained these levels or were over, they were rechecked and the individual was advised to see his own family physician.

At the Diabetes Fair in 1958 there were 50 cases of elevated blood pressure among the 495 persons examined.

Chest X-rays were taken on 711 individuals. 68 were found to have possible abnormalities, these included: tuberculosis — 23, tumor — 1, cardiovascular disease — 22, and other chest conditions — 22. Each individual with possible abnormal findings was notified by the Maine Bureau of Health and Welfare and advised to see his family physician. The physician was also notified. A follow up letter was sent to each family physician requesting information on final disposition of the case.

Exhibits included a Diabetes Detection Booth sponsored by the Community Health Association, manned by Mrs. Hazel Drowns, R.N. and Mrs. Pauline MacLeod, R.N. who are nurses with the Community Health Association.

Four hundred and forty-four specimens of urine were tested. Of this number, 15 were known diabetics and in addition, there were 10 other glycosurics.

Other displays included a heart exhibit by the Maine Heart Association and one on tuberculosis by the York County Tuberculosis Health Association. Books for the diabetics were furnished by the Goodall Library.

Diabetic diets were displayed by the diatetic department of the Goodall Hospital and a geriatric diet was presented by the York County Extension service. The Vocational Rehabilitation Service of Maine was another exhibitor. They depicted the services available through their agency. Diabetes Camps were demonstrated by the Association of Universalist Women of Boston. Drugs of importance in diabetes were depicted in a display by the local pharmacists. A foot exhibit illustrating prevention of complications was shown. Insurance literature was supplied by the Metropolitan and Prudential Life Insurance Companies concerning different phases of diabetes. An excellent science display depicting various aspects of diabetes was conducted by the Sanford Junior High School. This included the use of insulin to control elevated blood sugar and urine sugar. They also made posters concerning people who were potential diabetics.

### OTHER FEATURES

Nasson College participated with a detection program under the leadership of J. C. Myer, M.D., college physician who was assisted by the science department of that college. Twenty-three specimens were tested, of these of which three were positive. All of three were known diabetics, one being a faculty member and the other two students.

The detection drive in Sanford, was a most gratifying

and interesting endeavor. All told, there were 3318 specimens of urine tested for sugar. The industrial and school drives in Sanford were ingeniously arranged. There were eight detection teams set up with Mrs. Marilyn Roberts, R.N. and Mrs. Barton Allen, R.N. in charge of this effort. Each team was composed of two nurses and a recorder. Monday, November 16, 1959, was the day picked for this endeavor. Each team was assigned to certain industries and parochial schools. The public schools were done by Miss Laura Tabor, R.N., the school nurse. She was assisted by Mrs. Lura Hanson, R.N.

Another interesting feature of the Sanford program was the participation of the Business and Professional Women's Group of Sanford under the chairmanship of Mrs. Kathleen Chase, R.N. who was assisted by Mrs. Lucille Dowey. On Thursday morning November 19th, they conducted a program which included the various business establishments such as stores, garages and gas stations.

All employees were asked to bring specimens to work on that particular day and these were collected between 9 a.m. and 12 noon. The specimens were then taken to a detection station at the office of the Sanford Sewerage Department where they were tested by Miss Rachel Bergeron, R.N., the Sanford Town Nurse.

The number of persons tested by all these various groups were 3318 or approximately 1/5 of the town's population. The results were quite revealing. There were 58 positive tests for glycosuria (1.74 percent).

An interesting study was done at the Le Mennais College. Here, 55 of the student body and faculty from the grammar school, high school and college were checked. Two positives for glycosuria were found; one was a student and one was a member of the faculty. This project was conducted by Mrs. E. Littlefield, R.N. and members of the Alfred Health Council under the chairmanship of Carl E. Richards, M.D.

Another interesting feature of this week's campaign was the methods used in various towns, namely

Alfred, Lebanon, Eliot, Goodwin Mills and North Berwick. These towns, either through their health councils or other groups assisted by the public health nurses or physicians, divided these areas into various sections and set up a collection depot in each of these areas. A collection team then picked up the urine specimens and brought them to a central station or detection center where each of these specimens were tested.

Special mention should also be made of the program in Biddeford, Maine, which has a population of approximately 17,000. Here, 2216 specimens were examined in schools, hospitals, physicians' offices and industries and drug stores.

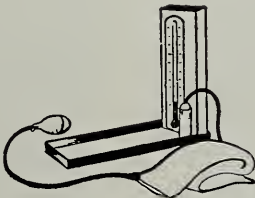
SUMMARY

This paper presents in brief the program carried out by the York County Medical Society during Diabetes Week in 1959 and the results obtained. The purpose of the program was to educate the public concerning diabetes and to stimulate interest in diabetes detection so that the unknown diabetic could be found early and treated early.

Various groups in this endeavor consisted of doctors, members of the York County Medical Society, private and public health nurses, Community Health Association members, pharmacists, teachers, Health Council members and other personnel.

There were approximately 15,885 individuals tested for glycosuria in York County which has a population of 93,000. This suggests that approximately 17 percent of the county's population were tested for sugar in the urine. Of these tested, there were 115 positive urine tests or .7% with glycosuria. Among these there were 33 known diabetics and at least 40 newly discovered diabetics. Not all of the newly discovered cases of glycosuria have had blood sugar determinations at this time.

122 Main Street, Sanford, Maine





# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **Voluntary Coverage Grows**

Insurance coverage of the aged is being extended constantly, the Senate committee was advised by Morton D. Miller (Equitable), Richard R. Shinn (Prudential) and Ardell T. Everett (Prudential). Actually it is increasing at a greater rate than it is for the population as a whole, the latter declared. Spokesmen for Mutual of Omaha and Continental Casualty also stressed expansion of health insurance benefits for older citizens and warned against inimical intercession by the Federal government.

### **Veterans' Care Expanded**

A House committee has approved a bill (HR 7965) that cracks the existing rule limiting veterans' *out-patient* medical care to *service-connected* disabilities. Examination of the committee's favorable report on this measure discloses action was based chiefly on its resulting in faster turnover in VA hospitals and, consequently, delaying the day when more beds must be constructed as beneficiaries grow older. HR 7965 authorizes pre-admission workups for veterans scheduled for hospitalization in non-service connected cases, also post-hospital outpatient care.

Although the VA indorsed the bill, it realizes the "opening wedge" danger. It informed Congress: "This bill would for the first time mean that non-service connected veterans would be receiving outpatient treatment even though we have endeavored to make revisions which would relate this only to hospital care. The out-

patient treatment of the non-service connected might be an opening wedge to a further extension of this type of medical treatment."

### **Insurance For Retirees**

The Senate Post Office and Civil Service Committee approved S.2575, which would extend benefits of the new Federal employee health insurance program to those who retired before that program becomes effective next July 1. The Civil Service Commission estimates that the bill would bring in 315,000 retirees and 100,000 widows.

### **Tests Inconclusive On Value Of Fluoride Toothpastes**

So far there is no conclusive proof that fluoride toothpastes prevent tooth decay.

At present, one can only speculate or theorize regarding the value of fluoride dentifrices in controlling decay, according to Francis A. Arnold, Jr., D.D.S., National Institute of Dental Research, Bethesda, Maryland.

"The results of clinical trials made so far are as controversial as are those obtained by the use of other dentifrices," he said.

Dr. Arnold's remarks were in a report on the present status of dental research in the study of fluorides appearing in the (April) *Archives of Industrial Health*, published by the American Medical Association.

— The use of fluoride compounds, which are applied

by dentists, are of value in preventing decay, particularly in areas where fluoridation of public water supplies is not feasible.

—The use of fluoride supplements to the daily diet presents problems and requires daily supervision. Such supplements are most effective during formation of the teeth.

—More than 1,500 communities are fluoridating their water supplies. This method undoubtedly has as much scientific support for its safety and effectiveness as any other public health procedure.

### **National Academy Picks Medical Science Members**

The National Academy of Sciences conducted election of members at its 97th annual meeting here last week. Of the 35 honored, the following represent the medical sciences: Armin Charles Braun, Rockefeller Institute, bacteriologist; Robert Galambos, Walter Reed Army Institute of Research, neurophysiologist; Robert Joseph Huebner, National Institutes of Health, virologist; Stanford Moore, Rockefeller Institute, biochemist; Theodore T. Puck, University of Colorado Medical School, biophysicist; Clinton N. Woolsey, University of Wisconsin Medical, neurophysiologist.

### **World Meeting Planned On Research In Burns**

The National Naval Medical Center will be host to the first International Congress on Research in Burns September 19 through 22. The Department of Defense is the sponsor of this assembly, which will attract more than 100 scientists from Western Europe, USSR, China and South American countries. More than 50 papers will be presented and the needs outlined for further research and the direction it should take. Assistant Secretary of Defense, Frank B. Berry, is the honorary chairman and the coordinator of arrangements is Dr. Curtis P. Artz, University of Mississippi Medical Center, Jackson, Mississippi.

### **Advice Given Projects Asking Tax Exemption**

Hospitals, nursing homes, foundations and other institutions applying for tax exemption are requested by the Internal Revenue Service to list full and complete names and addresses of all donee organizations. The processing of a great many applications undergoes delay because applicants fail to provide correct corporate or legal names of recipients of their benefactions.

### **Suppressed Anger Raises Blood Pressure**

A close relationship between suppressed anger and high blood pressure was reported in the (April) *Archives of General Psychiatry*.

Dr. Donald Oken, Chicago, writing in the *Journal*

of the *American Medical Association* said a study of 10 psychiatric patients with normal blood pressure provides "additional support for the hypotheses which relate hypertension and inhibited anger."

In the study, interviewers aroused anger, anxiety, and depression in the 10 subjects while their physiological response was being recorded.

"The data obtained in this study indicate a close relation between anger and both heart rate and blood pressure, especially the latter," Dr. Oken said.

When subjects who expressed their anger vocally and physically were compared with those who repressed it, the latter showed a higher diastolic blood pressure, but there was no significant difference in heart rate.

### **Convicted Doctor Carries Appeal To Supreme Court**

The U.S. Supreme Court has been asked to review conviction of a Maryland physician who certified to pregnancy of women whom he had never seen, let alone examined. By Maryland law, a girl under 16 may marry without consent of parent or guardian if a physician certifies she is pregnant. The Doctor was charged with perjury — signing pregnancy papers for girls seeking marriage licenses in Elkton, Maryland, a well known Gretna Green, without the formality of the prospective bride's presence.

Basis of the Doctor's appeal is that he made no oath or affidavit but merely signed the certificate, hence perjury was not committed.

### **Anticoagulant Or No?**

Advisability of the widespread medical practice of long-term treatment with anticoagulant drugs following strokes was strongly questioned by findings of a Veterans Administration study reported in Miami Beach, Florida.

Dr. Robert N. Baker, a member of the executive committee for a nine-hospital VA group, said their findings to date give no indication that such use of anticoagulants has value in preventing further strokes or lowering mortality.

Further, the study indicates that even with extensive precautions in use of the drugs, the medication probably increases the chance of hemorrhage in patients who have had strokes.

Dr. Baker said the research will be continued, to determine the value of anticoagulants for patients in whom contraction of a blood vessel of the brain causes brief paralysis.

The project is part of a major VA cooperative study of hardening of the arteries, heart attacks, and disease of the blood vessels of the brain, which has been underway for several years.

Dr. Baker, chief of neurology at the Los Angeles, California, VA center, reported on the section of the



study concerning strokes, and in detail on the 189 stroke patients, to the International Conference on Vascular Disease of the Brain, held at Miami Beach's Eden Roc Hotel.

He said that at the end of the first two years of the cooperative study, findings on these patients offer "no suggestion that anticoagulants improved the course of cerebral vascular disease."

The incidence of further strokes and the mortality are the same in the VA group receiving anticoagulants following strokes as in comparable VA stroke patients not receiving anticoagulants, Dr. Baker said.

The chairman of the study is Dr. Albert Heyman of the Durham, North Carolina, VA hospital. The Boston VA hospital is participating in this research in addition to the Los Angeles VA center and the Durham VA hospital. The VA hospitals in Brooklyn and the Bronx, New York; Seattle, Washington; Oakland, California; Denver, Colorado and Houston, Texas, are also participating.

### **Babies Need Early Shots Against Whooping Cough**

A baby's best protection against whooping cough is early vaccination or the immunization of the older children in the family, two San Francisco physicians said.

Whooping cough (pertussis) remains second to bronchopneumonia as "the most significant infectious disease of infancy," Drs. Stephen Kaufman and Henry B. Bruyn said in the (April) *Journal of Diseases in Children*.

A study of the 199 patients with whooping cough who were admitted to San Francisco General Hospital during a 10-year period showed child-to-child contact within the home was "the most important means" by which whooping cough is contracted.

The newborn can be best protected by adequate primary immunization or booster inoculation of other children in the family before the baby arrives, they said.

### **News Release**

The practice of medicine in widely scattered regions of the United States will be the subject of a special hour-long documentary to be telecast over the NBC-TV network on Friday, May 27, at 8:30 p.m. (EST).

The program, to be telecast in color as well as black and white, is another in the award-winning "March of Medicine" series produced and sponsored by Smith

Kline & French Laboratories in cooperation with the American Medical Association.

Entitled "MD USA," the special report will depict the work of five American physicians in various geographical areas of the country as they provide care for a wide array of patients.

Sequences were filmed in Alaska, Arizona, Louisiana, Pennsylvania, and Wisconsin.

### **Pacemaker Restoring Invalids To Active Life**

An improved electronic pacemaker, a device that stimulates the heart, is restoring incapacitated cardiac patients to an active life.

The device, originally designed for persons who had undergone heart surgery, is now being used increasingly for nonsurgical patients who sustain heart block as a complication of various afflictions of the heart muscle, according to the (April) *Journal of the American Medical Association*.

The portable, lightweight, transistorized pacemaker consists of a self-contained battery of long life which delivers a repetitive electrical stimulus by means of a stainless steel electrode which is implanted in the heart and runs through the chest wall to the externally worn pacemaker.

Because the entire apparatus is self-contained and only slightly larger than a package of cigarettes, the patient can use it with complete freedom of movement.

For this reason it has been found to be particularly useful for persons who, after the heart block occurs, are incapacitated because of intermittent fainting spells or because their heart is too weak to permit physical activity.

### **A.M.E.F. Grants Medical Schools More Than One Million Dollars**

The allocation of more than one million dollars to the nation's medical colleges was announced by the American Medical Education Foundation.

Contributions, principally from individual physicians and medical groups, will enable a record total of \$1,198,287 to be distributed this year to 85 medical schools, the foundation said.

"These contributions, given in addition to countless teaching hours worth thousands of dollars, are impressive evidence of the physician's concern for maintaining high standards of medical education and public health," said George F. Lull, M.D., foundation president.

# Maine Medical Association

## Program-in-Brief — 107th Annual Session

### The Samoset — Rockland, Maine

### Sunday — Monday — Tuesday

### June 19, 20, 21, 1960

#### Sunday, June 19

10:00 A.M. First meeting of the House of Delegates  
 12:30 P.M. Luncheon  
 3:30 P.M. Second Meeting of the House of Delegates  
 6:30 P.M. Dinner  
 Speaker: DR. JOHN H. FURBAY  
 Forest Hills, N. Y.  
 Sponsored by General Motor's Corporation

#### Monday, June 20

10:00 A.M. TO 12:00 NOON  
 Scientific Program  
 10:00 A.M. *Cancer*  
 DANELY P. SLAUGHTER, M.D.  
 Professor of Surgery  
 University of Illinois  
 11:00 A.M. *Carcinoma of the Prostate*  
 PERRY B. HUDSON, M.D.  
 Columbia University College of Physicians and Surgeons  
 12:00 NOON TO 2:00 P.M. Luncheon  
 2:00 P.M. TO 4:00 P.M.  
 Scientific Program Sponsored by the Maine Chapter, American College of Surgeons  
*Surgical Aspects of Cerebral Vascular Accidents*  
 JAMES L. POPPEN, M.D.  
 Neurosurgeon, Lahey Clinic  
*Treatment of the Thyroid Nodule*  
 Panel Discussion — Moderator — ISAAC M. WEBBER, M.D., Portland  
 Panelists: STANLEY E. HERRICK, JR., M.D., Portland  
 EDWARD K. MORSE, M.D., Rockland

JOHN F. REYNOLDS, M.D., Waterville  
 GEORGE J. ROBERTSON, M.D., Waterville  
 4:00 P.M. Election of President-elect  
 6:30 P.M. Annual Banquet  
 Speaker: The Honorable EDMUND S. MUSKIE

#### Tuesday, June 21

10:00 A.M. TO 12:00 NOON  
 10:00 A.M. *Space Medicine is Coming Down to Earth*  
 HUGH C. MACGUIRE, M.D.  
 Atomedic Research Center  
 Montgomery, Alabama  
 11:00 A.M. *Progressive Hospital Care*  
 EDWARD J. THOMS  
 Administrator, The Manchester Memorial Hospital  
 Manchester, Connecticut  
 12:00 NOON TO 2:00 P.M. Luncheon  
 2:00 TO 4:00 P.M.  
 Program sponsored by the Maine Medico-Legal Society  
 2:00 P.M. *The Physician and the Law*  
 WALTER M. TAPLEY, JR.,  
 Associate Justice,  
 Supreme Judicial Court of Maine  
 3:00 P.M. *The Determination of the Manner of Death* (as contrasted with Cause of Death)  
 MICHAEL A. LUONGO, M.D.  
 Department of Legal Medicine  
 Harvard Medical School,  
 Medical Examiner, Northern Division  
 Suffolk County, Massachusetts  
 6:30 P.M. Clam Bake



## SPECIALTY GROUP MEETINGS

## Monday, June 20

10:00 A.M. Maine Medico-Legal Society Annual  
Business Meeting

Movie: The Medical Witness

2:00 TO 4:00 P.M.

Maine Society of Anesthesiologists

WARREN G. STROUT, M.D., Bangor, President

M.M.A. Eye Section

Speaker: HAROLD BROWN, M.D., New York City

Subject: *Diagnosis of Ocular Muscle Abnormalities*

Discussion of Prevention of Blindness conducted  
by National Association

Pediatric Group (this meeting open to all interested  
in Pediatrics)

ALICE A. S. WHITTIER, M.D., Portland, Secretary

Maine Society of Clinical Hypnosis

Speaker: ETHAN ALLAN BROWN, M.D.  
Boston, Massachusetts

Subject: *The Use of Hypnosis in the Restoration  
of Normal Physiological Respiratory Rhythm  
in Asthmatic Patients*

## Tuesday, June 21

2:00 TO 4:00 P.M.

Maine Society of Internal Medicine

PAUL H. PFEIFFER, M.D., Waterville, Secretary

Maine Society of Obstetrics and Gynecology

EDWARD M. SOUTHERN, M.D., Waterville,  
Secretary

Maine Radiological Society

JOHN F. GIBBONS, M.D., Portland, President

Maine Trauma Group

JOHN A. WOODCOCK, M.D., Bangor, Secretary  
*X-ray of Fractured Tibia*  
*Discussion of X-rays in Unusual Cases*

## Luncheon Meetings

## Tuesday, June 21

Maine Chapter American Academy of General  
Practice

Maine Society of Obstetrics and Gynecology  
(followed by scientific program)

Maine Radiological Society  
(followed by scientific program)

## SPECIAL NOTICES

## Golf Tournament

DANIEL R. SHIELDS, M.D., Chairman

## Election Of President-Elect

The election of a President-Elect will take place at  
the General Assembly, Monday, June 20 at 4:00 P.M.

## Election Of Councilors

Election of Councilors for the following Districts will  
take place at the Second Meeting of the House of  
Delegates on Sunday, June 19 at 3:30 P.M.

First District — Cumberland and York Counties.

Second District — Androscoggin, Franklin and Ox-  
ford Counties.

## House Of Delegates

The Order of Business for the meetings of the House  
of Delegates will include final action on the Budget for  
1960-1961 and other matters presented at the Interim  
Meeting of the House and published in the April issue  
of the Journal, page 129.

## Council

The Council will meet on Saturday, June 18 and  
daily throughout the session — time and place of meet-  
ings to be announced.

## For The Ladies

A special program is being arranged by the mem-  
bers of the Woman's Auxiliary to the Knox County  
Medical Society.



DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

# Poliomyelitis Immunization Status Aroostook County, Maine, 1959

EDSON K. LABRACK, M.P.H.\*

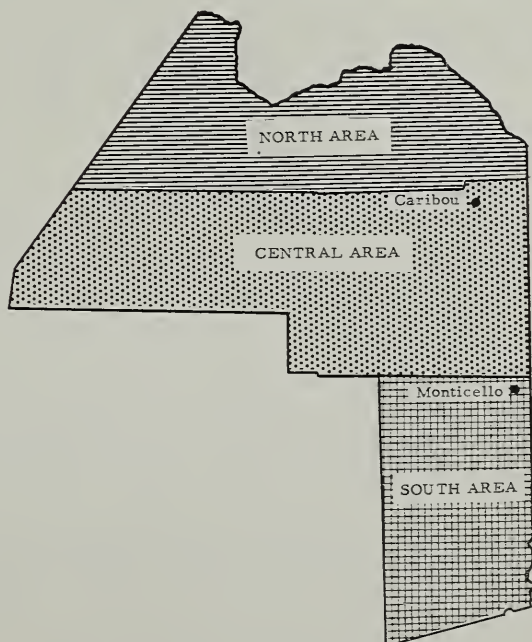
In 1959 there were 90 cases of paralytic poliomyelitis reported in Maine, 61 of which were reported in Aroostook County during the last four months of the year. This was the first significant outbreak of the disease in the State since 1955 and the first outbreak of such magnitude in Aroostook County in the history of communicable disease reporting in the State.

As a part of the epidemiologic analysis of the outbreak it was decided to conduct a study to obtain information concerning the poliomyelitis immunization status of residents of Aroostook County. Data for the study were collected during the months of November and December 1959 in a series of personal interviews conducted in a sample of households in Aroostook County. Interviewers from the student bodies of Aroostook State Teachers College, Ricker College, and Fort Kent Normal School visited nearly 400 households in 12 towns and collected information concerning the poliomyelitis immunization status of 1484 persons.

Survey sampling methods were used to obtain an unbiased estimate of immunization status in the County. The sample was designed to give each household in Aroostook County an equal chance of selection. The sampling method was stratified two-stage cluster sampling. The County was first divided into three areas, or strata. These will be referred to as South Area, Central Area, and North Area. See Chart 1. Samples of approximately equal size were selected in each strata. The primary sampling units within the strata were minor civil divisions.<sup>1</sup> Each minor civil division was assigned a probability of selection proportional to its population as enumerated in the 1950 Census and a sample of minor civil divisions was selected in each strata. One or more subsamples were then selected in each of the

minor civil divisions in the sample. In urbanized areas the subsample units were blocks. In rural areas the subsample units were squares, one mile in each dimension, selected by means of a map overlay. Interviews were conducted at each household in each subsample unit. The number of interviews in each minor civil division was proportional to its population.

CHART 1.  
STUDY DIVISIONS OF AROOSTOOK COUNTY



The respondents in the sample were cooperative and in general they answered the interviewer's questions confidently. In most cases the respondent was the housewife. Interviewers reported no refusals and respondents were able to furnish data concerning about 99%

<sup>1</sup> Cities, towns, plantations, and unorganized townships.

\*Director, Division of Vital Statistics



of the individuals in the sample. Loss to the sample through inability of the interviewers to find persons at home was negligible.

SEPTEMBER POLIOMYELITIS IMMUNIZATION STATUS

The September, 1959 poliomyelitis outbreak found the poliomyelitis vaccine status of Aroostook County residents slightly lower than that in the U.S. as a whole. According to sample data the percentage of individuals under 40 years of age who had received a 4th inoculation with Salk poliomyelitis vaccine was 8.2% in Aroostook County as compared with 18.3%<sup>2</sup> in the U.S. However, the percentage of persons under 40 who received 3rd, 2nd, and 1st inoculations was slightly higher in Aroostook County than in the U.S. as a whole, and the percentage who had received no inoculations was slightly lower.

IMMUNIZATION LEVELS BY AGE

The sample data indicate that persons of school age had the highest poliomyelitis immunization level in Aroostook County in September, 1959. The percentage of persons who had received one or more inoculations with vaccine ranged from a high of 88.0% in the 5-19 age group to a low of 7.9% in persons over 60 years of age. Table 1 shows sample data on poliomyelitis vaccine status by broad age groups.

TABLE 1

POLIOMYELITIS VACCINE STATUS BY AGE GROUPS AROOSTOOK COUNTY, MAINE, SEPTEMBER, 1959					
Age	Per cent immunized by number of inoculations				
	4	3	2	1	0
Under 1 .....	0.0	0.0	23.9	16.9	59.2
1- 4 .....	7.7	46.6	14.8	7.7	23.2
5-19 .....	11.8	62.7	11.4	2.1	11.9
20-39 .....	4.6	32.7	10.9	8.1	43.8
40-59 .....	5.8	15.1	10.9	4.2	64.1
60 and over .....	1.5	3.7	2.7	0.0	92.1

FAMILY IMMUNIZATION STATUS

One or more persons had received some vaccine in all but 19, or 4.9% of the households in the sample with one or more persons under 40 years of age. Among these 19 households were 11 with young children. When questioned as to the reason why none in the family had received vaccine four respondents stated that they distrusted or were disillusioned with the vaccine, two stated that they had no money for vaccine, and the remainder stated that they had simply neglected to have it.

Within families with one or more children, fathers displayed the poorest immunization level. Among fathers under 40 years of age in Aroostook County in September, 50.7% had had no vaccine as compared with 35.2% of the mothers in the same age group, and 30.8% of the fathers had three or more inoculations as compared with 41.7% of the mothers.

<sup>2</sup> U. S. data from U. S. Department of Health, Education, and Welfare, Public Health Service.

IMMUNIZATION LEVELS BY AREA

The level of immunizations varied in the 3 areas into which the County was divided for study. In general, the immunization level was highest in the Central Area and lowest in the North Area. Table 2A shows sample data on vaccine status for persons under 20 years of age in the U.S. and in each of the 3 areas of Aroostook County. Table 2B shows the same data for persons under 40 years of age.

TABLE 2A

POLIOMYELITIS VACCINE STATUS OF PERSONS UNDER 20 YEARS OF AGE, U.S. AND AROOSTOOK COUNTY, MAINE, SEPTEMBER, 1959					
Area	Per cent by number of inoculations				
	4	3	2	1	0
U.S. ....	23.8	44.8	10.8	4.0	16.5
Aroostook County	10.1	56.7	12.9	4.0	16.2
South Area .....	3.8	68.1	11.0	3.3	13.8
Central Area .....	17.0	49.4	16.2	4.4	13.0
North Area .....	5.1	55.7	9.1	4.3	25.7

TABLE 2B

POLIOMYELITIS VACCINE STATUS OF PERSONS UNDER 40 YEARS OF AGE, U.S. AND AROOSTOOK COUNTY, MAINE, SEPTEMBER, 1959					
Area	Per cent by number of inoculations				
	4	3	2	1	0
U.S. ....	18.3	37.5	10.6	4.2	29.4
Aroostook County	8.2	48.7	11.9	5.6	25.5
South Area .....	3.6	55.9	10.3	4.6	25.5
Central Area .....	13.5	44.4	13.8	6.9	21.4
North Area .....	4.0	47.4	10.4	4.5	33.6

ADEQUACY OF IMMUNIZATION LEVEL

For purposes of this study an "optimal poliomyelitis immunization level" is arbitrarily defined as a series of four inoculations with Salk poliomyelitis vaccine completed prior to August 1, 1959 or three inoculations completed during the period January-August, 1959 and partially immunized is defined as two inoculations prior to August, 1959 or three inoculations prior to January 1959. According to sample data an optimal immunization level had been achieved by 19.7% of children 1-4 years of age, 26.7% of persons 5-19 years of age, and 11.4% of persons 20-39 years of age in Aroostook County by the median point of the outbreak.

The age group 5-19 years showed the most consistent immunization status in the three areas of the County as well as the highest level. Table 3 shows poliomyelitis immunization status by broad age groups and areas of the County for persons under 40 years of age.

IMMUNIZATION ACTIVITY DURING OUTBREAK

Inoculation with Salk poliomyelitis vaccine in Aroostook County during the September-November period proceeded at a rate three times as great as the rate of inoculation during the months January-August, 1959. During the September-November period 20.7% of the individuals under 40 years of age in the sample received inoculations with vaccine. The largest part of the immunization activity (70.8%) during this period was the provision of 3rd and 4th inoculations. This activity will serve to raise the immunization status of an additional 14.9% of the persons in the sample to an

TABLE 3

POLIOMYELITIS IMMUNIZATION STATUS OF PERSONS UNDER 40 YEARS OF AGE BY BROAD AGE GROUPS AND BY AREAS			
AROOSTOOK COUNTY, MAINE, SEPTEMBER, 1959			
Age group and area	Per cent immunized Optimal	Partial	Per cent not immunized
1-4 years			
Aroostook County .....	19.7	49.4	30.9
South Area .....	16.3	61.3	22.4
Central Area .....	28.6	44.7	26.8
North Area .....	9.1	47.7	43.2
5-19 years			
Aroostook County .....	26.7	59.3	14.0
South Area .....	26.9	62.5	10.7
Central Area .....	26.6	62.7	10.7
North Area .....	26.6	52.0	21.4
20-39 years			
Aroostook County .....	11.4	37.1	51.6
South Area .....	15.1	33.2	51.6
Central Area .....	15.9	37.3	46.8
North Area .....	2.0	39.6	58.5

TABLE 4

POLIOMYELITIS IMMUNIZATION ACTIVITY BY BROAD AGE GROUPS						
AROOSTOOK COUNTY, MAINE, SEPTEMBER-NOVEMBER, 1959						
Area	Per cent inoculated by age group <sup>3</sup>					40+
	Total	under 40	1-4	5-19	20-39	
Aroostook County	20.7		25.8	21.2	15.8	5.2
South Area .....	11.8		20.4	10.7	8.3	2.3
Central Area ....	26.8		33.9	23.7	24.8	8.4
North Area .....	18.4		25.8	21.2	15.8	5.2

<sup>3</sup> Includes 1st, 2nd, 3rd, and 4th inoculations

optimal level. Immunization activity was greatest in the younger age groups. Table 4 shows poliomyelitis inoculation activity in Aroostook County during the period September-November, 1959 by area and by broad age groups.

DECEMBER POLIOMYELITIS IMMUNIZATION STATUS

Immunization activity in Aroostook County during the period September-November, 1959 resulted in a marked improvement in the immunization level in the County. The percentage of persons under 40 years of age with four inoculations with Salk poliomyelitis vaccine rose from 8.2% in September to 21.4% in December. This compares favorably with the percentage in the U.S. as a whole in September which stood at 18.3. The percentage of individuals under 40 with four inoculations in December was highest in the Central Area at 36.4 and lowest in the South Area at 10.5. Table 5A shows sample data on poliomyelitis vaccine status of persons under 20 years of age in Aroostook County by area, and Table 5B shows the same data for persons under 40 years of age.

In addition to the 21.4% under 40 years of age with four inoculations before December, 1959, 14.3% had had three inoculations, the last of which took place in 1959, thus the total for persons under 40 years of age with adequate vaccine was 35.7% in December. The percentage with optimal immunization in the group

TABLE 5A

POLIOMYELITIS VACCINE STATUS OF PERSONS UNDER 20 YEARS OF AGE					
U.S., SEPTEMBER, 1959, AND AROOSTOOK COUNTY, MAINE, DECEMBER, 1959					
Area	Per cent by number of inoculations				
	4	3	2	1	0
U.S. ....	23.8	44.8	10.8	4.0	16.5
Aroostook County	25.2	44.0	12.6	2.7	15.5
South Area .....	10.5	65.2	9.0	2.9	12.4
Central Area ....	36.4	33.2	17.0	1.6	11.7
North Area .....	19.8	44.3	8.7	4.0	23.3

TABLE 5B

POLIOMYELITIS VACCINE STATUS OF PERSONS UNDER 40 YEARS OF AGE					
U.S., SEPTEMBER, 1959, AND AROOSTOOK COUNTY, MAINE, DECEMBER, 1959					
Area	Per cent by number of inoculations				
	4	3	2	1	0
U.S. ....	18.3	37.5	10.6	4.2	29.4
Aroostook County	21.4	37.0	13.0	4.8	23.8
South Area .....	9.1	52.9	10.0	4.2	23.7
Central Area ....	31.1	28.8	16.1	5.4	18.6
North Area .....	16.4	37.3	10.4	4.2	31.7

TABLE 6

POLIOMYELITIS IMMUNIZATION STATUS OF PERSONS UNDER 40 YEARS OF AGE BY BROAD AGE GROUPS AND BY AREAS			
AROOSTOOK COUNTY, MAINE, DECEMBER, 1959			
Age group and area	Per cent immunized Adequately	Partially	Per cent not immunized
1-4 years			
Aroostook County .....	36.3	38.9	24.8
South Area .....	30.6	51.0	18.4
Central Area .....	50.0	31.4	18.6
North Area .....	20.4	41.1	38.5
5-19 years			
Aroostook County .....	45.9	41.4	12.6
South Area .....	36.2	53.7	10.0
Central Area .....	49.7	40.6	9.8
North Area .....	47.4	33.9	18.7
20-39 years			
Aroostook County .....	20.9	30.4	48.6
South Area .....	18.5	31.2	50.3
Central Area .....	30.3	27.6	42.0
North Area .....	8.9	34.0	57.1

under 20 years of age was 42.6. Table 6 shows immunization status by areas and by broad age groups for persons under 40 years of age.

SUMMARY

A sample survey showed the poliomyelitis vaccine status of persons in Aroostook County to be slightly less than that for the U.S. as a whole at the time of an outbreak of poliomyelitis in the County in September, 1959.

The age group 5-19 years was best protected, with 26.7% having an "optimal" immunization level.

The immunization level was highest in the Central Area and lowest in the North.

During the period September-December, 1959 immunization activity was three times as great as during the first eight months of the year. As a result of this activity the immunization level increased to a point somewhat higher than in the U.S. as a whole by December.



## COUNTY SOCIETIES

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President, Paul J. B. Fortier, M.D., Lewiston  
Secretary, Donald L. Anderson, M.D., Lewiston

## AROOSTOOK

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President, Robert F. Ficker, M.D., Kennebunkport  
Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## ANDROSCOGGIN

March 17, 1960

The March meeting of the Androscoggin County Medical Association was held at St. Mary's General Hospital, Desaulniers Hall, Lewiston, Maine on Thursday, March 17, 1960.

Twelve members were present at the meeting which was called to order by the President, Dr. Paul J. B. Fortier. There was a discussion of the May meeting to be held at Poland Spring.

Dr. Waldo A. Clapp introduced the speaker of the evening Mr. Edgar Darby, councilor in vocational rehabilitation, Augusta. His supervisor Mr. Elmer Mitchell was also introduced. Mr. Darby gave a very complete resumé of Vocational Rehabilitation in Maine; how it operates and the doctor's role. Three hundred and eighty-four were successfully rehabilitated last year. Seven hundred and fifty clients are active at present. Vocational Rehabilitation's purpose is to assist the handicapped in gaining employment, also to educate them concerning the problems that may arise from employment. A question and answer period followed.

DONALD L. ANDERSON, M.D.  
*Secretary*

## CUMBERLAND

April 21, 1960

A meeting of the Cumberland County Medical Society was held at the Maine Medical Center in Portland on April 21, 1960.

Following the Social Hour and dinner a panel was conducted on the subject of Nurse Physician Relations; Subtitle — Lack of Communications. The panel members were Sister Consuela, Director of Nursing Services at the Mercy Hospital; Miss Edith Doan, Superintendent of nursing at Maine Medical Center; Drs. Eugene E. O'Donnell and Stanley E. Herick, Jr. The members of the panel presented different aspects of the problem in a forthright and challenging manner. This was followed by a question and answer period.

The business meeting was called to order by the President, Dr. Donald F. Marshall. Douglas H. Brown, M.D. of Cape Elizabeth was elected to membership in the society. Dr. David Davidson announced that the County Health Department in conjunction with the Tuberculosis Association was planning to conduct an industrial medical survey in the county and desired the approval of the County Medical Society. The County Society voted to endorse this action. The obituary of Millard C. Webber, M.D. was read and it was voted that this be spread upon the minutes of the Society and a copy sent to Mrs. Webber.

ALBERT ARANSON, M.D.  
*Secretary*

## HANCOCK

April 13, 1960

The April meeting of the Hancock County Medical Society was held on April 13, 1960 at the Hancock House in Ellsworth, Maine. Those members present were: Drs. Llewellyn



*The first specific aldosterone-blocking agent...*

# ALDACTONE<sup>TM</sup>

*effectively extends the medical control of edema or ascites.*

*It introduces a new therapeutic principle in the treatment of...*

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ALDACTONE introduces a new class of therapeutic agent, the aldosterone-blocking agent providing:

*satisfactory relief* of resistant or advanced edema even when all other agents, alone or in combination, are ineffective or are only partially effective.

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ALDACTONE acts by blocking the effect of aldosterone, the principal mineralocorticoid governing the reabsorption of sodium and water in the distal segment of the renal tubules.

By so doing Aldactone establishes a fundamentally new and effective approach to the control of edema or ascites, including edema resistant or unresponsive to conventional diuretic agents.

Further, because of its different site and mode of action in the renal tubules, Aldactone has a true, highly valuable synergistic activity when used with a mercurial or thiazide diuretic.

## What Physicians May Expect of Aldactone

It is fully expected that Aldactone will change present medical concepts of the therapeutic limitations of managing edema. Many patients living in a greater or lesser state of edematous invalidism can now be edema-free. To others, gravely ill, Aldactone will be life-saving.

When used alone, Aldactone will produce a satisfactory diuresis in about half of those patients whose edema is resistant to conventional diuretic agents.

When Aldactone is used in a comprehensive therapeutic regimen, which includes a mercurial or a thiazide diuretic, a satisfactory diuresis and relief of edema may be expected in approximately 85 per cent of edematous patients *who would not otherwise respond*.

**DOSAGE:** For most adult patients the optimal dosage of Aldactone, brand of spironolactone, is 100 mg. four times daily. Aldactone should be administered for at least four or five days before appraising the initial response, since the onset of therapeutic effect is gradual when it is used alone. Aldactone manifests accelerated activity with greater response as early as the first and second days when used in combination with a mercurial or thiazide diuretic.

**SUPPLIED:** Aldactone is supplied as compression-coated yellow tablets of 100 mg.

**G. D. SEARLE & CO.**  
Chicago 80, Illinois

*Research in the Service of Medicine*



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The guest speaker was Mr. Philip Wheeler, special investigator for the State District Attorney's Office, who gave a very informative and fascinating talk, illustrated with slides on "Murder in Maine."

Plans are being formulated for a dinner-dance at the May meeting.

RUSSELL G. WILLIAMSON, M.D.  
*Secretary*

#### YORK

April 13, 1960

The monthly meeting of the York County Medical Society was held at the CO-Z Motel, Kittery, Maine, Wednesday, April 13, 1960. Twelve members and two guests were present.

A social hour and dinner preceded the business meeting which was called to order by the President, Robert F. Ficker, M.D. Oney P. Smith, M.D. of Wells was elected to membership.

Mr. John Buckley and Mr. George Frame gave a very interesting talk on insurance, followed by a lively question and answer period.

CHARLES W. KINGHORN, M.D.  
*Secretary*

#### New Members

##### CUMBERLAND

Douglas H. Brown, M.D., 548 Shore Road, Cape Elizabeth

##### KENNEBEC

Lucien F. Veilleux, M.D., 185 Grant Street, Portland

##### SOMERSET

Kestutis M. Kemezys, M.D., 25 Garfield Street, Madison

##### YORK

Oney P. Smith, M.D., Post Road, Wells

## News and Notes

### American College of Physicians Appoint Dr. Blaisdell

At the recent annual meeting of the American College of Physicians in California, Elton R. Blaisdell, M.D. was re-appointed to the Board of Governors for a three-year term.

### Dr. Dieter-Gruemer Receives Grant

Dr. Hanns Dieter-Gruemer, Chief Clinical Investigator, Pine-land Hospital and Training Center, and Research Associate, The Boston Dispensary, received a grant of \$34,661.00 from the National Institutes of Health, Bethesda, Maryland, to con-

tinue his study of phenylalanine metabolism in the phenylpyruvic condition.

The three-year project is expected to provide answers to the following questions:

1. Distribution of free phenylalanine into different organs as brain and liver as well as the total pool size of free phenylalanine in the phenylketonuric organism.
2. The incorporation of phenylalanine into both total and electrophoretically separated plasma and tissue proteins and daily rate of protein synthesis in various species as men, rabbits, and rats of different age groups.
3. The effect of high phenylalanine concentrations and its metabolites as phenylpyruvic acid and phenylacetic acids on brain metabolism of growing animals *in vitro*.

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# Announcements

## New England States Joint Regional Meeting June 1-3, 1960

Maine will play host to the joint regional meeting of the National Rehabilitation Association for Region I, comprising the New England States. Collaborating in planning the program of events are the Governors' Committee of the New England States and the New England State Chapters of the National Rehabilitation Association. The three-day meeting will take place at the Poland Spring House, Poland Spring, Maine, where arrangements have been made for American Plan rates, three meals per day, with rooms single or multiple occupancy. A package rate plan for the entire period has also been arranged. Advance accommodation reservations are urged.

Maine persons serving in the planning are: Joseph E. A. Cote, Augusta, Honorary Chairman; Merton J. Gribbin, Manchester, General Chairman; Joseph Poulin, Augusta, Secretary; Gray Curtis and Elmer Mitchell, Augusta. Fred Kilgust, Executive Secretary, Cumberland County Tuberculosis and Health Association is conference publicity chairman.

The program sessions will provide opportunity for all in attendance to be heard concerning problems encountered in arousing community interest, enlisting community support and in carrying out community projects in behalf of the handicapped.

Further information relative to the program or arrangements may be obtained through Merton Gribbin, Director, Employment Service, Employment Security Commission, 331 Water Street, Augusta, Maine; or Elmer L. Mitchell, Supervisor, Division of Vocational Rehabilitation, 32 Winthrop Street, Augusta, Maine.

## Post-Graduate Seminar In Arthritis And Related Diseases

The Post-Graduate Seminar in Arthritis and Related Diseases will be held at the Diplomat Hotel, Hollywood-By-The-Sea, Florida, June 11th and 12th, 1960. This course is acceptable for eight hours Category I Credit by the Academy of General Practice.

Topics for the two day session will include: Pathology of Rheumatic Disease, Rheumatic Fever, Rheumatoid Arthritis: Diagnosis and Relationship to Collagen Diseases, Synovial Fluids and Drug Evaluation. The registration fee is \$15.00.

For further information write to Ralph E. Nollner, Executive Director, The Arthritis And Rheumatism Foundation, Florida Chapter, 1206 Huntington Medical Building, Miami 32, Florida.

## Symposium For General Practitioners On Tuberculosis And Other Pulmonary Diseases

The ninth annual Symposium for General Practitioners on Tuberculosis and Other Pulmonary Diseases will be held at Saranac Lake, New York, July 11 through 15, 1960.

In the past few years many General Practitioners have evidenced a desire for a symposium on chronic pulmonary dis-

eases, especially tuberculosis, designed particularly for them and presented over a period short enough so that they might readily attend. This 1960 Symposium has been planned to cover all important aspects of these topics from the General Practitioners' point of view. Many of the sessions are informal panel discussions with ample opportunities for questions from the audience.

The Symposium is acceptable for 27 hours of Category I credit by the American Academy of General Practice and the College of General Practice (Medicine) of Canada. The registration fee for this symposium is \$60.00.

For further information write to John N. Hayes, M.D., General Chairman, Symposium for General Practitioners on Tuberculosis and Other Pulmonary Diseases, P.O. Box 627, Saranac Lake, New York.

## The Society Of Nuclear Medicine

The seventh annual meeting of The Society of Nuclear Medicine will be held at the Stanley Hotel, Estes Park, Colorado, June 22 through 25, 1960.

Over seventy speakers will present new scientific information covering every phase of research, medicine and surgery as it concerns the use of nuclear phenomena in the diagnosis and treatment of disease. Special emphasis will be given to the diagnosis and treatment of thyroid disease, therapeutic use of radioisotopes and "tools of the trade."

The First Annual Address of the Nuclear Pioneers Series will be delivered by Dr. Edward Teller of the University of California. This first Address will be in honor of the late Dr. Ernest O. Lawrence.

The meeting is open to all physicians, veterinarians, nurses, physicists, technicians and other scientists working with, or interested in utilizing, radioisotopes in the health field. There is a non-member registration fee of \$5.00. Registration forms and copies of the program may be secured by writing to Mr. Samuel N. Turiel, Administrator, The Society of Nuclear Medicine, 430 N. Michigan Avenue, Chicago 11, Illinois.

## The Scientific Exhibit 1960 AMA Clinical Meeting, Washington, D.C.

Application forms for space in the Scientific Exhibit at the Washington, D.C. Clinical Meeting of the American Medical Association, November 28 to December 1 are now available. They may be procured by writing directly to Charles H. Bramlitt, M.D., Director, Department of Scientific Assembly, American Medical Association, 535 N. Dearborn Street, Chicago 10, Illinois. Applications close on August 1.

The "Hull" award will be presented for the first time at this meeting to the best exhibit on a scientific subject which has not been previously shown at a medical meeting. The award will consist of a gold medal and an honorarium of \$250. The winning exhibit will be approved for showing in the Scientific Exhibit at the 1961 Annual Meeting of the AMA which will be held in New York City.

Dr. Thomas G. Hull will personally present the award to the recipient.



### American Board Of Obstetrics And Gynecology

Applications for certification (American Board of Obstetrics and Gynecology), new and reopened, Part I, and requests for re-examination in Part II are now being accepted. Deadline for receipt of applications is August 1, 1960. No applications can be accepted after that date.

The following change in requirements for certification was made by the members of the American Board of Obstetrics and Gynecology at the recent annual meeting in Chicago.

"A Resolution was passed at the recent annual meeting of this Board which eliminates the submission of Case Reports as part of the Part I Examination. It is required, however, that each candidate eligible to take the Part II Examination bring to the place of examination, a duplicate list of Hospital Admissions as submitted with his or her application. This change in requirements is not retroactive and therefore applies to candidates making application for the 1961 examinations."

It has also been resolved by members of the Board that Applications for Appraisal of Incomplete Training will no longer be accepted for review by the Residency Review Committee.

### Sixth International Congress Of Internal Medicine

The Sixth International Congress of Internal Medicine will be held August 24 through August 27, 1960 at Basle (Switzerland) which is organized by the International Society of Internal Medicine.

The principal subjects of the Congress will include: Pathogenesis and Therapy in the Edema and Enzymic Regulations in the Clinic. Seventy leading internists from all over the world will take part in the main scientific program by reading their papers or joining in the panel discussions. Three official languages: German, French and English will simultaneously be translated for the principal lectures.

Programs and registration forms for the Congress may be obtained from the Secretary of the Sixth International Congress of Internal Medicine, Steinentorstrasse 13, Basle 10 (Switzerland).

### Department Of Health And Welfare Division Of Maternal And Child Health Including Services For Crippled Children

#### Cardiac Clinics

Portland—Maine Medical Center  
9:00 a.m.: Every Friday (Holidays Excepted)  
Bangor—Eastern Maine General Hospital  
9:00 a.m.: Apr. 22, May 13, 27, June 10, 24

#### Pediatric Clinics

Bangor— Eastern Maine General Hospital  
1:30 p.m.: Apr. 22, May 27, June 24  
Presque Isle—Northern Maine Sanatorium  
1:30 p.m.: May 25  
Waterville—Thayer Hospital  
1:30 p.m.: May 3, June 7

## P R O G R A M

Woman's Auxiliary To The  
Maine Medical Association

## Annual Meeting at the Poland Spring House

MAY 19, 1960

9:30 A.M.-12:00 Noon — Registration	12:00 Noon Cocktails
9:30 A.M. Coffee	1:00 P.M. Luncheon
10:00 A.M. Board Meeting	Introduction Of Head Table Guests
10:30 A.M. Annual Meeting	Greetings from the Maine Medical Association, WILSON H. MCWETHY, M.D., Augusta, President-elect
Presiding: MRS. WALTER E. PENTA, Portland, President	Speaker — CARL E. RICHARDS, M.D., Sanford, Council Chairman M.M.A.
Committee Reports	
County Society Reports	

# Necrologies

M. CARROLL WEBBER, M.D.

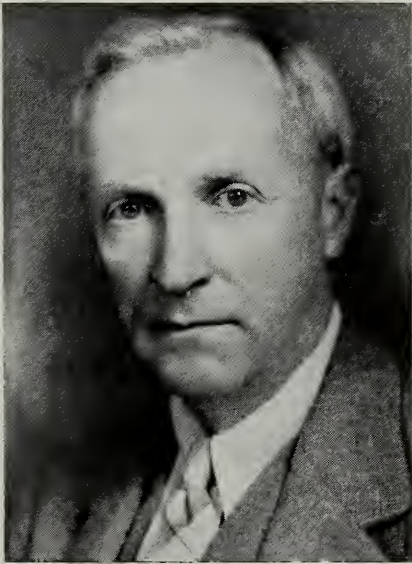
1882-1960

M. Carroll Webber, M.D., of Portland, died March 19, 1960 following a brief illness.

He was a Senior member of the Cumberland County Medical Society and the Maine Medical Association and would have been eligible for a fifty-year pin at the Annual Meeting in June. He was also a member and past president of the Portland Medical Society, a member of the American Medical Association, the Aegis Club, associate member of the American College of Physicians and a member of the staffs of the Maine Medical Center and Mercy Hospital.

Dr. Webber was born in Richmond, Maine, June 7, 1882, the son of Dr. George F. and Allie Maria Ham Webber. He was a graduate of Coburn Classical Institute in 1901, Bowdoin College in 1907 and received his medical degree from the Bowdoin Medical School in 1910. He interned at the Maine Eye and Ear Infirmary until 1911 and in 1919 attended post graduate courses at Johns Hopkins University in Baltimore. He was a Captain in the Army Medical Corps. during World War I.

His fraternal affiliations included Atlantic Lodge, AF & AM; Greenleaf Chapter, RAM; St. Alban's Commandery, Knights Templar; Portland Council, R & SM; Scottish Rite, Valley of Portland; Kora Temple Shrine, Lewiston; Zeta Psi; the Sons of Colonial Wars; and the Ralph D. Caldwell American Legion. He was also a member of the Woodfords Congregational Church.



Surviving Dr. Webber are his widow, the former Martha B. O'Brien; two sons, Millard C. Jr., Portland and Albert F. Webber, Winchester, Massachusetts; a brother, Dr. Merlon A. Webber, Pittsfield and four grandchildren.

---

JOSEPH A. LEZBERG, M.D.

1897-1960

Joseph A. Lezberg, M.D. of Bangor, died March 8, 1960 at the Eastern Maine General Hospital following a long illness.

Dr. Lezberg was born in Russia, October 3, 1897, the son of Morris S. and Eva Lezberg. He graduated from Tufts Medical School in 1922 and interned at St. Joseph's Hospital, Pittsburgh, Pennsylvania.

After practicing in Kenduskeag, Maine from 1926 until 1929, Dr. Lezberg returned to Bangor in 1930 where he practiced medicine for 30 years. He was medical director and

physician of the Bangor City Hospital, a position he held until his death. He was also on the staff of the Eastern Maine General Hospital and St. Joseph's Hospital.

Dr. Lezberg was a member of the Maine Medical Association, American Medical Association and the Penobscot County Medical Society. He was also a member of the Pine Tree Chapter of B'nai B'rith of Bangor.

Surviving Dr. Lezberg are his widow Mrs. Ethel Lezberg, a son David, six brothers and two sisters, and several nieces and nephews.

---

## Deceased

PENOBSCOT

Peter S. Skinner, M.D., 112 Ohio Street, Bangor, May 5, 1960



## Letter To The Editor

April 18, 1960

Daniel F. Hanley, M.D., Editor  
The Journal of the Maine Medical Association  
P. O. Box 637, Brunswick, Maine

Dear Dr. Hanley:

The National Society for the Prevention of Blindness is receiving a number of inquiries regarding the relationship between oxygen therapy for premature infants and retrolental fibroplasia. Specifically, it is asked when the knowledge, that uncontrolled use of oxygen in the treatment of premature infants might result in retrolental fibroplasia, became generally available to the profession and hospitals.

Those who fail to follow recommendations established by competent authority for prescribing oxygen for premature infants subject their patients to the risk of blindness.

The entire medical profession and all hospital administrators have a duty to institute and persistently follow procedures in the administration of oxygen to premature infants that will prevent retrolental fibroplasia.

Enclosed is an annotated bibliography on the relationship of oxygen therapy to retrolental fibroplasia. These references

are set out in chronological order to show when it was that knowledge of the cause and prevention of RLF became available to the medical profession.

Your cooperation is forcefully bringing this subject to the attention of your readers will be deeply appreciated by the National Society for the Prevention of Blindness and its Committee on Retrolental Fibroplasia. Many others who have either a professional or personal interest in the universal use of such important sight saving information will be equally appreciative.

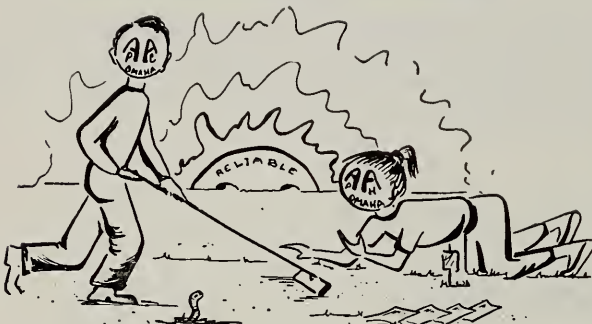
Thank you for your assistance.

Sincerely yours,  
JOHN W. FERREE, M.D.  
Executive Director

National Society for the Prevention of Blindness  
1790 Broadway, New York 19, N. Y.

Committee on Retrolental Fibroplasia:

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# The Journal of the Maine Medical Association

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## The Role Of The Psychiatrist In The Care And Treatment Of The Mentally Retarded\*

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Not until recently has the mentally retarded child been considered a well-defined medical responsibility. Although Fernald and others had advocated a more active role for the physician in this syndrome as long as 50 years ago, there was little response and responsiveness to their plea.

Those physicians who turned to this field did so more on account of personal reasons and very few among them applied scientific and research methods. There was no organized professional training in the field of Mental Retardation 50 years ago. In keeping with the philosophy of the times the mentally retarded individual was considered a social and economic liability who needed to be confined in a segregated institution.

More or less humane care under more or less rigid institutional rules and regulations determined the aim of the "training": conformism and "cheap" institutional labor.

The general concept of society was that mental retardation was largely a matter of heredity and degeneration. Profound ignorance of the etiologies was prevalent even among the medical profession and with it a widespread lethargy toward research and therapy.

It was a stigma to be mentally retarded.

It was a stigma to be related to a mentally retarded individual.

It was a stigma to be professionally associated with the care and treatment of mentally retarded patients.

Only with this historical sketch is it possible to comprehend the existing conditions in our in-service facilities for the mentally retarded; the existing confusion as to purpose and function; the deplorable absence of professional administrative leadership in many places; the lack of well-established scientific standards of therapy and treatment, of staffing patterns and even of physical requirements for hospital facilities. Conspicuously, the American Association on Mental Deficiency, after 83 years of existence, has still to present us with clearly defined policies of minimum professional standards for hospital administrators, physicians, professional educators, psychologists, social workers, occupational therapists, physical therapists, nurses, vocational rehabilitation counselors, and others; and for adequate physical standards applicable to the hospitals for the mentally retarded.

This failure of the specific professional organization is partially the result of, and partially responsible for, the existing confusion.

Spectacular scientific advances in the natural sciences and a more general acceptance of dynamic principles in our society have brought about radical changes in basic concepts and with it a need for a complete reorientation for psychiatrists and other medical specialties and, therefore, for the entire Staff.

If one wishes to define the role of the psychiatrist in the care and treatment of the mentally retarded, it seems essential to proceed first with a definition of the syndrome of mental retardation to explore its extent and

\*Presented at the Southeastern Regional Meeting, A.A.M.D., Raleigh, North Carolina, October 8, 1959.

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the resultant implications. Next, one will have to establish a frame of reference for what we, as psychiatrists, refer to as "psychiatric care and treatment." These two explorations, I hope, will establish a base for communication that should enable us to examine the role of the psychiatrist objectively and acceptably to psychiatrists as well as to all those who participate professionally, socially, or emotionally, in the program for the mentally retarded. It may also serve as a base for considered and thoughtful discussions between psychiatrists and those dissenters among lay people and professional personnel who believe that the role of the psychiatrist in the field of Mental Retardation is incidental and peripheral.

My first task, then, is to attempt a clarification of what "Mental Retardation" is.

When I use the term "Mental Retardation" I refer to the broad phenomenon child psychiatrists are dealing with every day; namely, *an unusually slow or arrested rate of mental development of a transient or of a chronic nature*. I will not attempt to differentiate Mental Retardation from other terms alternately and sometimes indiscriminately used such as mental deficiency, mental inadequacy, subnormality, feeble-mindedness, pseudo-retardation, dementia or even amentia. I mention these since they may and frequently do cause confusion. I will add, however, that "Mental Retardation" is more and more used in reference to those patients whose social and educational functioning is significantly lower than what could be expected of them considering their intellectual potential. "Mental Deficiency," on the other hand, is more and more applied to identify conditions of impaired mental potential as the result of organic pathologic processes.<sup>1,2</sup>

A practical and commonly used criterion in the classification of the mentally retarded is the measurable degree of retardation expressed in I. Q. ratings as the result of psychometric tests. It must be kept in mind that such classification is somewhat arbitrary and certainly inadequate and it does not in itself reflect etiological, prognostic, or therapeutic factors.

The "severely retarded" or "dependent" patient functions at an I. Q. range from zero to 19. This section comprises approximately .1 per cent of the total population, or 3½ per cent of the retarded population. It is, therefore, the smallest among the three groups.

The second section includes what is now called the moderately retarded patient with an I. Q. score from 20 through 49. It is estimated that we find approximately .3 per cent in the total population and 11 per cent in the mentally retarded group.

The third segment comprises the vast majority of the mentally retarded population. We refer to them as the "mildly retarded" or the "educable" patient.

I must repeat that this classification alone is arbitrary and that the consideration of psychological, social, and cultural factors as well as etiological medical entities as far as known today must be included in the diagnostic

and treatment process. As in any medical condition an etiological classification is to be preferred and must be attempted although our still limited knowledge will make this difficult in numerous cases.

The frequency of mental retardation is in distinct contrast to the aloofness of many psychiatrists and, particularly, child psychiatrists. George E. Gardner<sup>1</sup> recently observed that 35 to 50 per cent of the cases presented at the regular teaching conference with the pediatricians at the Children's Medical Center in Boston "resolve themselves into a question of whether the child is or is not mentally retarded, or as to whether the child should or should not be able to do the academic work that is presented to him" in accordance with his placement and chronological age. In fact, he states that 25 per cent of those cases come with the specific chief complaint (presented to the pediatrician or the child psychiatrist) that the child seems unable to learn to the degree and with the competence that a child of his chronological age should. Gardner<sup>1</sup>, Jensen and Engstrom<sup>2</sup> and others concur that at least 35-40 per cent of all children referred to the child psychiatry service in a general hospital or a community child guidance clinic come with serious question as to their intellectual competence or intellectual potential and most of them with the direct and specific question of mental retardation. Experienced child psychiatrists will confirm Gardner's impression that for every child referred to us for consultation because of possible schizophrenia or childhood autism, there are 25 patients referred for confirming or ruling out a diagnostic impression of mental retardation. Gardner further claims that the child psychiatrist in training will see ten times as many children where the question of mental retardation has been raised than he will be asked to give advice and guidance in cases of school phobia or pavor nocturnus. Most authorities agree with Clemens E. Benda<sup>3</sup> and others that approximately three per cent of the population are mentally retarded, or, at least five million people in the United States.

To further our aim of a definition of "mental retardation" we should proceed to attempt an analysis of the various etiologies which are rendering a patient "mentally retarded."

One possible approach is Benda's<sup>3</sup> classic division into the pre-natal, para-natal and post-natal groups. In this way the time at which the retardation syndrome is presumed to develop becomes the salient element. This is helpful and even essential, particularly if one wishes to pursue further etiological research into conditions for which we do not have a scientifically proven explanation. For example, it is certain that the syndrome of mongolism originates under still obscure circumstances during the pre-natal period. Physiology and pathology of mongolism as an existing syndrome is well-known and described<sup>3a</sup>. If one wishes to study the etiological mechanisms involved in this developmental disorder, as we will have to since we must press

toward focussing our attention upon prevention as our final aim, then research during the pre-natal period (gestation) becomes imperative. Since another speaker will discuss the topic of "research" I shall refrain from a detailed discussion although I shall make further references to research.

In keeping with my own topic of "care and treatment" I prefer here to elaborate on factors which are known to cause "mental retardation." I feel that any biological event that causes "an unusually slow or arrested rate of mental development" is a legitimate cause for psychiatric inquiry in order to effect therapy if effective therapy is known to exist. This may require for some of you a re-evaluation of what the practice of psychiatry should and should not include as will become evident later on.

#### SOMATIC FACTORS

As far as the etiologies are concerned we are probably best informed about the somatic factors although here, too, much remains to be clarified. They include genetic factors, infections, metabolic and traumatic disorders as well as other common etiological agents. The various medical specialties have already provided a fair amount of information and are engaged in further research of most of these conditions which in common may cause mental retardation.

While it will suffice to briefly mention these conditions I should like to make some specific reference to enzymatic pathologies of the body. It is in this area where biochemical research has made some spectacular advances which may eventually result in a conceptual change of some psychiatric principles. For example, one of the most impressive demonstrations of an enzyme defect is with the glucuronyl transferase system. A most consequential complication of jaundice after birth is permanent brain damage, commonly referred to as Kernicterus. In the past, this has affected approximately 15 per cent of live born infants with erythroblastosis<sup>4</sup>. It appears now to affect an equal number of jaundiced premature babies without sensitization. Over two-thirds of the infants with kernicterus die within one week after birth and some of the surviving babies die during the first year of life of intercurrent infections. Those who survive have a definite neurological syndrome which includes hearing loss, hypotonia, mental retardation, and, later on, athetosis, chorea, or choreo-athetosis. Many hypotheses had been proposed to explain the pathogenesis of kernicterus. However, it became apparent that this condition is related to the "indirect" fraction of bilirubin and that a high concentration of the "direct" fraction of bilirubin does not result in brain damage. To-day, it appears very probable that a deficiency of glucuronyl transferase, probably transient in nature, will result in an accumulation of indirect bilirubin in the newborn and premature infant<sup>4</sup>.

Also, it is well-known that patients who are suffering from phenyl-ketonuria were regarded in previous years

as suffering from a "psychosis" of a debilitating nature of unknown etiology. To-day, we know that phenylalanine is converted to tyrosine by the enzyme system "phenylalanine hydroxylase," consisting of two protein fractions, a labile fraction I and a more stable fraction II. Recent studies have shown that in phenylketonurics fraction II is present in the tissues in normal amounts but the disease occurs because of a deficiency of fraction I in the system<sup>4</sup>. Isolation, synthetization and application of fraction I in an activated preparation into the body system, we may hope, could bring about the cure of what was previously considered a "psychosis of unknown etiology."

#### SOCIO-CULTURAL FACTORS

Cultural factors in a community may play a considerable role in determining what children belong to the "mentally retarded." Usually they are identified at school age. Here, then, the "mental retardation" concept becomes more of an educational-cultural status than a clearly defined medical condition. It is well-known that children from culturally deprived homes will score low on psychometric tests because the test itself reflects a certain cultural level. After exposure to more adequate stimulation the test scores tend to go upward. Similar observations can be made with children who either individually or as part of their entire family are exposed to severe psychological and physical deprivations. Lack of supervision, inadequate or deficient nutrition, adverse hygienic conditions, inadequate parental affection and lack of intellectual stimulation are among these factors. A child with an average intellectual potential will function considerably lower if exposed to such deprivations and may permanently fail to realize his potential unless therapeutic-remedial action is taken. To illustrate such conditions and consequences I will present the case of a girl who was born in 1940 in Northern Maine. Her father, a Maliseet Indian, was 23 years when patient was born. He resided during the years in various communities in Northern Maine and community reports indicate that he was not capable of suitably supporting his family. He was physically abusive to his wife and his children and there were frequent disturbances caused by his excessive drinking and fighting in his household. Patient's mother, a Passamaquoddy Indian, was two years older than father. From descriptions available, this woman appeared to have been of limited intelligence with possibly a fifth grade education. When patient was 2½ years old, mother was committed to a Reformatory for Women on a charge of intoxication and our patient, along with four other siblings, was committed to the custody of the State Department of Health and Welfare on a complaint of alleged willful neglect by both parents.

At this time she presented no gross behavior problems. She was, however, extremely enuretic and had considerable difficulties with eczema and chronic otitis media. Initially, she was hospitalized for malnutrition



and subsequently placed in a foster home for 11 years. Presumably, the girl was never fully accepted in this home and she became gradually a behavior problem. She was on the streets of the community a greater part of the time until her behavior and language became so vulgar that the local police threatened to prohibit her presence at the swimming pool. At age 13, she was seen by a psychometrist who gave her a mental age of 8 years and 8 months and a full scale I. Q. of 66 (S.B.-L). Six months later, our patient was moved to a different foster home. After another six months she had to be moved to yet another home because of her increasing unreasonableness, violent temper tantrums and her increasing sexual curiosity. Her personal and eating habits were socially unacceptable. She would spit in her food and if angry with any member of the family she would spoil his food by messing it with her fingers. She was moved twice more to different foster homes until, at age 14, she was admitted to Pineland Hospital and Training Center.

After admission she was admitted to the Education Department's program in 1954, entered academic classes in September and remained until June of 1958, for four years. She also attended Dressmaking and Tailoring and Home Economics during this period. During the last school year she was enrolled in the Hospital Driver Education program.

Initially, after nine months of schooling, she could still be described as academically, socially and emotionally incompetent. She needed constant attention and showed only slight progress. By February of 1956 she was showing progress in her academic work, was rarely a discipline problem, though unpredictable and erratic in speech and general behavior. Her Home Economics teacher reported that there was "fair progress — patient more at ease." By June of 1956 this was changed to "good progress — retains what she has learned." And from the academic school reports: "She progresses academically and shows considerable social and emotional growth."

In May of 1954, the WISC was given to this patient with the resulting scores as follows: Verbal scale 79; Performance scale 87; Full scale 81. From July 1956 to October 17, 1956, she was given group psychotherapy in which the non-directed technique was employed. In summarizing the results of these sessions, the psychotherapist felt that she showed some improvement over the course of therapy, and as a consequence was able to establish a more realistic view of life situations.

In February of 1958, another psychological evaluation was done on this patient and the psychologist at that time reported that she appeared to be functioning within the normal range of intelligence. She received a WAIS full scale I. Q. of 90; she possessed good reasoning ability to concentrate on a given task, with very little anxiety arising from the progress. She did, however, display a need for more adequate socialization and on the TAT responses there was the suggestion of much

passive aggression directed toward the environment. Her personality maturity seemed to have been hindered by environmental difficulties and rejection. During this same testing, a Goodenough was administered with a resultant mental age of 12-3 and an I. Q. of 94. The Vineland was administered in March of 1958 with a resultant SMA of 10-6.

In 1958, after evaluating the reports from various departments, I summarized the opinions of staff members as follows: This socially retarded American Indian girl, has been in the Institution for a little over four years. During this period of time she adjusted herself well and made considerable advances. Her present intelligence quotient is in the normal range and a transfer to the Sweetser Home\* for further psychotherapy and a business course at Thornton Academy\*\* might be indicated. The next day, a member of the Psychiatric Social Service Department contacted the social worker at the Sweetser Home to make arrangements, if possible, for the above recommendation to be put into action. Because she was older than the children usually accepted by the Sweetser Home and because of various other problems encountered, this recommendation did not go through as had been anticipated.

At the close of the psychotherapy sessions, she appeared more stable and by February of 1958, was reportedly very co-operative, able to integrate fairly well socially, and her general progress was described as excellent. In 1958 it was the general feeling of all staff members that this girl was ready for community and job placement. She was placed on short trial visit for the first time in March of 1958 during school vacation. Reports of this short trial visit experience were all of a positive nature. In July of 1958 she was given summer employment which lasted until September of the same year. During this summer employment she worked her room and board with a family and a certain number of hours a day she was employed next door at an exclusive Inn which caters to clients in the upper financial income group.

While working here she did extremely well in all areas of her work and proved to be reliable as well as trustworthy in behavior. At the end of the summer, however, she was not interested in working any more for that season and wanted to be returned to the hospital. Shortly after her return, the head of one of our departments requested to employ her to help care for his wife who was critically ill. She wanted this employment and was given the opportunity. She remained there until the death of the patient, and at the end of her employment was recommended very highly. It was felt at the end of 1958 that this girl's mental capacity showed a higher potential for learning and, therefore, she was recommended as a candidate for the Woodrow Wilson Rehabilitation Center in Fishersville, Vir-

\*for emotionally disturbed adolescents at Saco, Maine.

\*\*High School, Saco, Maine.

ginia. She was accepted and placed there November 3, 1958.

During the first quarter she attended the Woodrow Wilson Training Center, she was given classes in the following: Typist I, Basic English, Clerk Receptionist and business machines. During the second quarter, she was given classes as follows: Clerk Receptionist, Filing, Record-keeping, and Typing II. Later, she was also given a course in switchboard operating. Reports from Woodrow Wilson indicate that she was slow in retaining knowledge. However, she tried very hard and they considered her progress excellent.

She finished school on September 25, 1959, with an overall average of C rank, and although we do not have the final evaluation report from Woodrow Wilson as yet, it was felt at that school that she had shown favorable progress although possibly she was not adapted toward Clerk Receptionist work to as great a degree as their vocational aptitude test had seemingly indicated when she first arrived to attend classes.

At the present time, she is living with her sister in Connecticut. Our last reports indicate that she has applied for a position with the local telephone company and expects to be employed there in the near future.

#### PSYCHOLOGICAL FACTORS

Functional psychological factors involve an individual's total mental manifestation including the intellectual function. Anxiety alone may often result in apparent impairment of the intellectual potential.

Severe personality disturbances in children have been referred to as childhood schizophrenia, hebephrenic schizophrenia, infantile or childhood autism, atypical development, symbiotic psychosis, pseudo-retardation, pseudo-schizophrenia and pseudo-imbecility.

Until recently, childhood schizophrenia has been known as a form of "idiocy" that demonstrated no pathological organic findings on autopsy to explain what was considered a "severe degree of mental defect."

The multiplicity of diagnostic implications conveyed is self-evident. Some seem to relate to fairly well demarcated entities like childhood schizophrenia. Others are rather vague, like pseudo-imbecility, indicating at best what we are not dealing with. This conspicuous schism involves outstanding authors in this field who, in the face of the etiological obscurity, have advanced theories which range from predominantly constitutional and hereditary views of Kallman<sup>5</sup> and Lauretta Bender<sup>6</sup>, to the psychological views of Kanner<sup>7</sup>, Despert<sup>8</sup> and Rank<sup>9</sup>. The obscurity does not diminish if one considers that many authors stress multiple factors of causation as is reflected in Bender's emphasis on hereditary and constitutional factors — it includes:

(1) "The pseudo-defective or typically autistic child, retarded in maturation or regressed after an early normal or even precocious development. Such a child is withdrawn from reality and object relationship, inhibited, often mute or incapable of communication in

interpersonal relationships. Physically, he has labile and inadequate homeostasis, inadequate tone in visceral and in the motor muscles without adequate response to stimuli from within or without, although he may be hypersensitive to all stimuli which leads to further withdrawal. Postural and motor behavior also retain immature features even of the embryonic level.

(2). "The pseudo-neurotic response (a concept which followed the contribution of Paul Hoch and P. Prolatin, 1949, in adults). Children with pseudo-neurotic responses present the picture of pan-neurosis with anxiety, phobias, obsessions, compulsions, hypochondriacal or psychosomatic symptoms, concern about body boundaries, body image, identification and orientation in time and space. They have disturbances in thought processes, speech, distortion in all perceptual areas, exaggerated or unusual introjections and projections. They often have exaggerated insight, capacity to relate with precocious verbal and graphic abilities and symbol formations, abstract conceptualization and high intelligence. Children in this group or stage are often recommended for psychotherapy.

(3). "The pseudo-psychopathic reaction type is most often seen in late childhood or adolescence with paranoid ideation and difficulties in identification with peers and negativistic reactions to authority. They tend to aggressive and antisocial acting-out and active escape mechanisms with persecutory preoccupation. Denial mechanisms and compulsive and obsessive features often successfully suppress anxiety and guilt and insight.

(4). "Psychosomatic disorders may predominate, including asthma, intestinal disorders such as celiac disease, colitis, ulcers, etc., and other allergic-like phenomena. Such conditions may have to be differentiated from dysautonomia (Riley-Day disease).

(5). "Psychotic states may occur at any stage or may predominate throughout the life of the child, either exaggeration of childhood symptomatology or by resembling adult psychosis.

(6). "A latent schizophrenia may never become decompensated or, at any stage, a schizophrenic child may become relatively symptom free either spontaneously or in response to any form of treatment. However, there are certain epochs of childhood, especially puberty in boys and latency in girls, when this happens most often."

In these conditions it is often the evidence gathered from clinical impression, the course of therapy and the reconstruction that may become possible in retrospect, from data given by the parents and gathered in the course of intensive communication with them over a period of several years which permits us to eventually arrive at a definite diagnosis. This is an empirical approach in retrospect which is very time-consuming and unpredictable requiring intensive psychiatric treatment over several years. The outcome may or may not confirm the initial diagnostic impression and thereby may or may not justify the efforts. It remains some-



what of a preference for an individual professional approach rather than one of undisputed objective and scientific criteria applicable under certain circumstances by any properly trained physician.

This predicament is also reflected in the disposition of most cases. Those whose behavior is largely inoffensive or even passive and withdrawn are usually entered in a hospital for the mentally retarded while the overactive, disturbed or aggressive child is admitted to the State Hospital for the mentally ill. This procedure does not only reflect the etiological obscurity but determines the final fate of the child who will either reside among "severely dependent" retarded patients or among severely disturbed adults since most States still do not have sufficient facilities for mentally ill children. Neither solution even approaches what could be considered a minimal therapeutic climate. Instead, we provide for isolation with severe sense deprivation which will perpetuate the condition instead of bringing it into therapy.

To illustrate the preceding by a case in point, I should like to cite from a paper by Gates which was recently presented<sup>10</sup>. He drew on the description of a boy who was treated by David Reiser:

"Stanley's parents had first taken him to a clinic where the boy had been examined and diagnosed as having childhood autism, with the additional comment that it was difficult to decide whether this was the expression of a psychological disturbance or of some brain injury; referral to the Putnam Center followed when the boy was two years and eleven months old. The reason for examination had been because of Stanley's slowness of development and virtual absence of speech. The history at the time of our diagnostic study indicated that Stanley sat up at 5 months, walked well at 13 months, was bottle fed until 8 months of age and then 'he didn't want it any more'. Teething began at five months and was accompanied periodically by terrible screeching. He might appear to the mother as if he needed attention but when it was given to him, he acted as if he didn't want it. At age 1½ years, he had a series of 'tantrums' in which he ran around in circles, screamed, and banged his head. He was reported to have developed a vocabulary of 'mamma' and 'daddy' which he used indiscriminately toward either parent. Instead of speaking, he would lead his mother to the things he wanted. Stanley's therapist describes him as a handsome, well-built, blond, brown-eyed boy with a poker-faced, unsmiling expression. He resisted separation from the mother, ignored the psychiatrist, preferred to make beautifully arranged and colored geometrical designs with tinkertoys, and to spin any objects and toys that he could find. In this activity there was precocious function and co-ordination as he had a superb ability to spin anything, and could feel out the balance and weight distribution of almost any object. Physically, he was well-co-ordinated and graceful. Although he did not speak, his mild responsive-

ness to stimuli given him such as toys, words, and food, led to the belief that there was a strong likelihood that he would respond well in treatment, which was begun at the age of 3 years and 9 months. Prior to beginning treatment, an effort was made to study possible further physical factors by having further psychological and neurological studies as well as an electroencephalogram which was normal. The conclusion reached was that there was no detectable evidence at that time of brain damage.

"During most of the first year, Stanley used his therapist mainly as a utility, to reach for things, open doors, and get objects for him. He needed to have his mother in the room. He reacted with great fright to rotary fans and to round lights. He did respond to contact-making games such as forehead bumping, telephone play and looking in mirrors, all initiated by the therapist. His preferred activities included the scanning of what appeared to be space relationships, the dropping of objects down the staircase, and exploring. At the end of the first year of treatment, he began to make elaborate construction of trains. In effect, the therapist tried to provide something that had evidently been missing in the boy's earlier childhood and made the effort to become someone especially important to him.

"During his second year of treatment, he timidly whispered and rehearsed single words, and began a form of speech of simple words, though these were clearly spoken. An increase in interest in his therapist as a person was paralleled by an increase of interest in his parents, his siblings and his nursery school teacher. He became more venturesome, building ingenious, intricate bridge and highway systems which reflected a good sense of form, of utility and beauty, as well as creativity. There had been frequent self-destructive, panicky, screaming tantrums during the first year. In the second year, these were less frequent and he began to verbalize his feelings when frustrations occurred. During his third year of treatment, he was accepted into a private school. Here there was a brief period of initial aloofness which gradually gave way to greater participation in song and dance and art activities with other children. The most remarkable feature during the third year was the refinement of his speech, his emotional sensitivity, and his verbalizing of the myriad of conflicts which had been operating during the past years. It was as if nothing had been repressed; he spontaneously recalled various situations such as being spanked, of water being dashed in his face during panicky screamings, of being left alone with an incompetent nurse for several days, and the impression that he was bad and 'had to die'. At this point in therapy, Stanley can now participate in a give and take conversation. Continued therapy is planned, promotion into kindergarten is expected this fall, and his own mother and father are contributing enormously to Stanley's improvement through their own conscientious therapeutic work.

"This brief account illustrates the difficulties in diagnosis and the beginnings of a lengthy psychotherapeutic process. In this instance, a rather extensive modification in parental attitudes both of the mother and of the father has been possible through their own individual therapeutic work. The more effective care of the mother and the father, and the therapeutic efforts of the psychiatrist, the help of the nursery school teacher and later of a pre-kindergarten teacher, have united with the at first unknown potential, leading to continued development of the child's ego. The withdrawal had been demonstrated to be reversible"<sup>10</sup>.

After having established a frame of reference for the incidence and for three general etiological categories regarding mental retardation, I shall now attempt clarification of what is meant by "psychiatric care and treatment."

It is this area which may be open to disagreements.

First of all, there are numerous psychiatrists whose professional interest and work is focused on highly specialized techniques to the exclusion of others. For example, a psychiatrist whose practice is limited to the treatment of neuroses by means of intensive psychotherapy or of psychoanalysis may be resistive to assuming responsibility for diagnosis and treatment of a mentally deviant child or even to counselling where a mentally retarded adult is concerned. The same will often apply to those among our colleagues who limit their professional work to the treatment of the mentally ill by physiological means exclusively and thus exclude psychotherapeutic considerations, milieu therapy and remedial techniques such as are commonly used by the psychiatric clinic team which includes psychological, social service, occupational therapy, physiotherapy, religious counselling, music therapy, speech therapy, vocational counselling, remedial and special educational services<sup>11</sup>.

Secondly, it follows that often there is a very definite difference in the requirements and purpose of the privately practicing psychiatrist and the physician working in a Mental Health Clinic or Child Guidance Clinic. The scope of immediate responsibility as well as the types of therapy vary even more between private practice and residential hospital care.

However, whatever type of psychiatric practice we follow as a matter of specialization and of individual interest and preference, there can be no doubt that "psychiatric care" ranges from occasional office visits to total hospitalization for prolonged periods of time.

If we project these conclusions on the syndrome of "mental retardation" as a condition of unusually slow or arrested development of a transient or of a chronic nature we may come to some very definite conclusions of what the role of the psychiatrist is, or should be, in the care and treatment of the mentally retarded:

1. Establishment of a comprehensive etiological diagnosis based upon somatic, psychological and psychodiagnostic as well as socio-cultural evaluation.

2. Formulation of a comprehensive treatment plan

which may include the broad scope of somatic therapies, psychotherapy and the many adjunctive therapies previously referred to.

3. Programming and overall administration of clinic, day-hospital and residential hospital facilities.

It may be timely to remind you that the so-called "schools for mental defectives" are part of a bygone era<sup>12</sup>. The well-adjusted mentally retarded child and adult belong in the community not in a residential facility. This applies to approximately 90 per cent of the mentally retarded population. The primary responsibility for these patients will rest in the hands of the parents, of educational specialists, social agencies and people concerned with employment (employers, vocational or employment counsellors, labor officials, etc.).

Those patients, however, who are today admitted to a "hospital for the mentally retarded" come to our attention because of a medical or a psychiatric condition or because of a social emergency which requires diagnosis and treatment<sup>11</sup>. It is the considered conviction of leading psychiatrists that in our residential facilities the psychiatric services must be structured to include all therapeutic skills for the psychiatrically deviant child, regardless of whether the specific chief complaint is an alleged intellectual or an emotional problem. For we know today that the etiology may be somatic, socio-cultural or psychological, or a combination of all three.

There can be no doubt that this area is wide open to inquisitive psychiatric ingenuity which cannot mean application of rigid and orthodox principles of only one approach or another. It will have to be an open-minded acknowledgment of the potential contributions and the aggregate knowledge of both physiological and psychological investigations. This will require close and co-operative acceptance of and communication with embryologists, neurophysiologists, biochemists, pediatricians, pathologists, neurologists, as well as psychoanalysts and clinical psychologists. This will also require a reconsideration of the professional program to be carried out at the residential facilities which care for these patients. It is no longer appropriate to provide the general practice type of medical care and ignore basic medical problems which brought the patient to our hospital in the first place and keep him hospitalized for what appears to be extended periods of time, or, possibly, for the rest of his life.

We can no longer rationalize our failures by looking hopefully and complacently at the nations' medical schools which are primarily devoted to teaching medical students what is known and what is not known and only secondarily to research. Research, indeed, must become a primary aim and basic purpose of the professional program in our hospitals.

It seems superfluous to add that the diagnosis, care and treatment of psychiatrically deviant children belongs in the hands of medical specialists trained and experienced in psychiatry, preferably in child psychiatry.

*Continued on page 188*



# The Ineffectiveness Of Blood Transfusions On The Phenylalanine Level In Phenylketonuria

## (Clinical Observation)\*

HANS V. MAUTNER, M.D.

Phenylketonuria, a disease characterized by the triad of mental deficiency, familiarity, and excretion of phenylpyruvic acid in the urine, was described in 1934 by Fölling. Since then an enormous number of examinations and observations have been collected and many details of this inborn metabolic error have been described. Phenylpyruvic acid is a metabolite of phenylalanine, an essential amino acid. Phenyllactic acid also may be formed from phenylalanine. These two processes are reversible: the body is able to build phenylalanine from phenylpyruvic acid as well as from phenyllactic acid. But since the classical experiments of Embden with perfusion of surviving livers it has been known that phenylalanine is oxidised in the liver to tyrosine, an amino acid which is listed as not essential because it can be formed from phenylalanine. Moss and Schönheimer, using deuterium inserted into a benzene ring, confirmed these findings and found that this process is irreversible. Hydro-xylation of phenylalanine to tyrosine is an enzymatic process. Udenfriend and co-workers have described this enzyme, phenylalanine hydroxidase, which is present in the liver, but not in muscles, lung, or brain; they found that the system is more complex and involves two enzymes, one of which is extremely unstable. In phenylketonuria this process of metabolising phenylalanine to tyrosine is deficient, probably due to lack of the enzyme in the liver (Jervis). This lack causes the increase of phenylalanine and phenylpyruvic acid level in the blood. Phenylalanine has been found by Abderhalden and Tetzner to be toxic, especially the unphysiological R-phenylalanine, D-phenylalanine being quickly metabolised to tyrosine and made thus harmless.

Recently it has been shown that metabolic abnormalities in phenylketonuria are even more complicated. Pare and co-workers have proven that in these patients the conversion of 5-hydroxytryptophane to 5-hydroxytryptamine (serotonin) is lower than in normal people, as a result of a low activity of an enzyme 5-hydroxytryptophan decarboxylase. From these and other observations it was deducted that a high level of phenylalanine has an inhibitory effect on many enzymatic processes. On

the other hand, Waisman and co-workers have shown that tyrosine and probably also tryptophan have an activating effect on phenylalanine hydroxylase. Pare and co-workers have even started a "campaign" to treat phenylketonurics with 5-hydroxytryptophan.

We were interested in the question of changes of the phenylalanine level of the blood following blood transfusion. This seemed primarily very improbable because phenylalanine-hydroxidase has been found in the liver only.

The phenylalanine level in serum of a phenylketonuric woman of 24 years of age, was determined and 1 pint of blood given intravenously. Three hours, eight hours, and twelve hours following the transfusion the phenylalanine level in the blood was again determined. The findings are given in the following table:

Time	8:30 a.m.	11:30 a.m.	4:30 p.m.	8:30 a.m.
Phenylalanine level	40.5 mgm.%	43.1 mgm.%	40.6 mgm.%	40.7 mgm.%

We see that the phenylalanine level was not altered by the blood transfusion. The slight increase following the transfusion is probably the result of regulation of the increased blood volume by loss of water from the blood stream.

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# Tuberculosis Control In Institutionalized Mentally Retarded Patients\*

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The susceptibility of retarded patients to infection is well-known. This fact holds even more true if applied to Institutions for mentally retarded. A. C. Tredgold, in his textbook on mental deficiency in 1952, states that among all causes of death in "amentis resident" in Institutions in England 16% died of tuberculosis, 22% of infectious pulmonary diseases, and 9% of other infections.

The morbidity and mortality from tuberculosis among retarded institutionalized patients is higher than among non-institutionalized retarded patients and certainly higher than among normal persons. This is due both to environmental factors and to constitutionally lower resistance among retardates. This fact is often aggravated by the lack of understanding of even the simplest rules of hygiene and sanitation on the part of the mentally low-grade patient.

The lower resistance and susceptibility of Mongoloids to infectious diseases and to tuberculosis in particular is even much more pronounced. Clemens Benda, in his book on "Mongolism and Cretinism," states that prior to the specific anti-tuberculous treatment 75% of Mongoloids above 10 years of age died of tuberculosis.

Pineland Hospital and Training Center is a State institution for mentally retarded with a total population of approximately 1600 patients. Prior to 1955 the control and treatment of tuberculosis in this Institution was sporadic. No regular and routine x-raying of patients and employees was in existence. Patients developing clinical symptoms and signs suspicious of tuberculosis were x-rayed and if the diagnosis was confirmed they were isolated and treated. At best, the treatment was inexact, sporadic, inadequate as far as dosage of drugs and duration of treatment is concerned. Due to the over-crowding of the Institution, the isolation procedures were poor and inadequate. It is, therefore, not surprising that the results of treatment and control of tuberculosis were rather poor; but even with the existing deficiencies, the advent of modern drug treatment

of tuberculosis made an impact on the death rate as shown in Table No. 1 when the mortality rate since 1949 did not exceed 20% of the total mortalities.

TABLE NO. 1 OF MORTALITIES AT PINELAND (1940-1954)

Year	Population	Total No. of deaths	No. of deaths from TB	% of deaths from TB
1940	1100	14	5	35.7
1941	1100	17	4	23.5
1942	1100	13	4	30.7
1943	1100	25	12	48.0
1944	1100	19	5	26.3
1945	1100	14	5	35.7
1946	1100	24	9	37.5
1947	1100	28	7	25.0
1948	1100	22	5	22.7
1949	1100	30	6	20.0
1950	1200	18	2	11.0
1951	1400	21	4	19.0
1952	1400	21	3	14.3
1953	1400	25	2	8.0
1954	1500	16	3	18.7

With the advent of a new administration in 1954, a vigorous and systematic tuberculosis detection control and treatment program was initiated. With the acquisition of a larger and competent medical staff and the engagement of a chest consultant, the following program was developed:

1. Every patient and every employee was routinely x-rayed once a year.
2. All new admissions were skin tested with PPD intermediate strength.
3. All patients with pulmonary pathology were x-rayed at regular intervals, and, if necessary, treatment was instituted.
4. All patients with active tuberculosis were properly isolated, put on a rest regime, and treated with either a combination of streptomycin and Para-aminosalicylic acid or Isoniazid® and Para-aminosalicylic acid or Isoniazid, streptomycin, and Para-aminosalicylic acid.
5. Sputum examination, both by smear and cultures, and obtained by gastric lavages were done on all active cases in two- to three-month intervals.
6. Patients classified as inactive were put on graduated exercise after a proper period of treatment and

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returned to their building and were followed by physical examination, sputum examination, and x-ray in three-month intervals.

7. Patients whose tuberculous lesions were inactive for a period of three years were x-rayed every six months and sputum examination was done twice a year.

In the period January, 1955, to January, 1960, 83 cases of tuberculosis were supervised. The classification of those cases was as follows:

	January, 1955 to January, 1960	
	No. of active cases	No. of inactive cases
Minimal	26	17
Moderately advanced	20	6
Far advanced	6	1
Pleural effusion	1	
Tuberculous meningitis and miliary tuberculosis	1	
Tuberculous Spondylitis	1	
Bone and joint tuberculosis	4	
TOTAL	59	24

The duration of the drug treatment was never less than two years and usually not longer than four years. The average duration of treatment was three years. The results of the treatment as far as sputum conversion is concerned were very gratifying in that all surviving cases became negative and remained so as of January, 1960. Clinically and by x-ray the disease in all pa-

tients who survived since 1955 has remained inactive. Out of a total group of 83 cases supervised in the period January, 1955, to January, 1960, only two cases with pulmonary tuberculosis are still classified as active. Table No. 2 shows the percentage of deaths from tuberculosis in the years 1955 to 1960.

TABLE NO. 2

Year	Popul- ation	Total No. of deaths	No. of deaths from TB	% of deaths from TB
1955	1600	14	0	0
1956	1600	19	1	5.2
1957	1600	27	0	0
1958	1600	18	0	0
1959	1600	26	1	3.8

SUMMARY

A short report is presented summarizing the results of a tuberculosis detection, control, and treatment program in an institution for mentally retarded. In the past, tuberculosis was rampant in institutions for mentally retarded. With an adequate and strict supervision and the availability of drugs and surgery, this disease can be brought under control and reduced to a manageable minimum in institutions for mentally retarded.

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THE ROLE OF THE PSYCHIATRIST IN THE CARE AND TREATMENT OF  
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# The Sjörgren-Larsson Syndrome\*

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The frequent association of mental retardation, with or without neurological symptomatology, with disorders of the skin was first stressed by Brissau<sup>6</sup> in 1897 who considered this phenomenon as coordinated manifestation of a "neurocutaneous" teratology. Many observations have been published since then and in 1955-56 Ewing<sup>11</sup> reviewed the literature and collected considerable material which he studied personally. He dealt particularly in detail with cutaneous manifestations which occur in mongolism.

Obviously there are different ways in which the association of neurological disorders with affections of the skin can be explained. It cannot be expected that one explanation will be valid for all "neuro-cutaneous" syndromes. Therefore, a clear separation of well defined syndromes appears to be of greater heuristic value than recording a variety of skin diseases which are observed in mentally retarded patients without regard to the basic neurological disorder.

Yakovlev and Guthrie<sup>39</sup> and van Bogaert<sup>5</sup> discussed those conditions in which a faulty development of the ectoderm appears to be responsible for both disease of the central nervous system and that of the skin. van Bogaert, in his classical monograph on "congenital neuro-ectodermic dysplasias," dealt with disorders which may be considered as simultaneous involvement of two parts of the ectodermal Anlage: the nervous system and the skin. He listed the following diseases as belonging to this group:

- (1). tuberous sclerosis
- (2). Recklinghausen's neurofibromatosis
- (3). angiomas of skin, retina, and central nervous system
- (4). ectodermic dystrophies associated with neurological manifestations (a) xerodermic idiocy of Sanctis-Caccione<sup>25</sup> and (b) the Rud-syndrome<sup>27</sup>. Since van Bogaert's publication a clear cut hereditary syndrome of spastic paralysis and "ichthyosis" frequently associated with macular degeneration of the

retina has been described by Sjörgren<sup>30</sup> and Sjörgren and Larsson<sup>31</sup>. Apart from Sjörgren's observations only a single example of this disorder has been reported by Link and Roldam<sup>20</sup>.

In order to avoid confusion with Sjörgren's disease of salivary glands swelling and dryness of mouth and conjunctivae the designation "Sjörgren-Larsson syndrome" will be applied to this disorder and studies carried out in two siblings thus affected will be reported.

## CASE REPORTS

*Family history.* The parents died 10 years before admission of the two patients' on March 18, 1959, and are reported to have been mentally normal. There was no consanguinity of the parents. The family consisted of 13 siblings. The first was a girl born in 1903 who developed normally; the second a girl who died at the age of one year was reported as having been mentally deficient but no information was obtained concerning her skin condition and neurological symptoms; the third was a boy who died at the age of nine years of scarlet fever and was apparently healthy before; the fourth a boy who died when four years old, was believed to be mentally retarded, but no further information was obtainable; fifth, a normal girl born in 1907 and sixth a normal girl born in 1908; the seventh is patient No. 1; eighth a normal girl born in 1912; ninth and tenth were boys who died at the age of one year, no further information was obtained; the eleventh was patient No. 2; the twelfth a normal girl born in 1921; and the thirteenth a normal girl born in 1922.

*Personal history.* Patient No. 1 was born in 1909. An abnormal skin condition was noticed immediately after birth and was diagnosed as ichthyosis (Fig. 1). No progression of the skin disease was observed. She had since birth a spastic paralysis of legs and mental deficiency was noticed in early infancy. On April 29, 1959, her SMQ was 3 on the Vineland scale. The findings on admission were as follows: The skin all over the body is dry, rough, and covered diffusely with fine scales and scattered areas of peeling (Fig. 1). Only the face is not involved. Neurological examination reveals intact cranial nerves, except for an exaggerated jaw jerk. Motor system: Paralytic lower extremities, the motor power preserved in the upper limbs. Feet in valgus position, the knee joints are contracted (120°). The left lower extremity displays atrophy of one inch without any fasciculation. All tendon and periosteal reflexes are exaggerated, more so on the left side. Bi-

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FIG. 1. Case 1. Appearance of the skin.

lateral Hoffmann's signs, more pronounced on the left side. There is a left ankle clonus, but no Babinski on either side. Sensation for touch, pain, and temperature and coordination of the upper extremities are normal.

The ophthalmological findings by a specialist were as follows: "Patient was unable to sit up and therefore a slitlamp examination was impossible. The pupils were equal in size and reacted very well. Vision test was performed with the picture chart for children. The vision in the right eye was found to be 3/30 and in the left eye 3/10. It is possible that the vision is in reality better if one could employ corrected glasses.

"There were no posterior synechiae as far as one could see without the use of the slitlamp.

The fundus of the right eye showed normal disc and normal retinal vessels, but there were pretty fine chorio-retinal changes in the macular region. In the fundus of the left eye, the disc and retinal vessels were also normal. Between the disc and the macula there were some black, pigmented chorio-retinal spots, besides finer pigmented changes in the region."

A pneumoencephalogram was performed on February 24, 1960. 130 cc. fluid was removed and 130 cc. air was injected.

Plain skull films display basilar impression.

Moderate amount of subarachnoidal air is seen. There is a mild cortical atrophy present; best seen over the frontal pole and over the fronto-parietal region adjacent to the sagittal sulcus. The entire ventricular system so far as recognizable in the pneumoencephalogram is enlarged. The third ventricle is mildly enlarged in mid-line position. The aqueduct is 6 millimeters in diameter in the A-P projection. On the lateral views the aqueduct is well visualized, somewhat enlarged, and is in a normal position. The lateral ventricles are extremely large; the left one being somewhat more dilated than that on the right. The 4th ventricle is not seen in any projection. The interpeduncular cistern is well outlined and somewhat dilated (Fig. 2).

Summary: Internal hydrocephalus and basilar impression.

#### *Laboratory findings:*

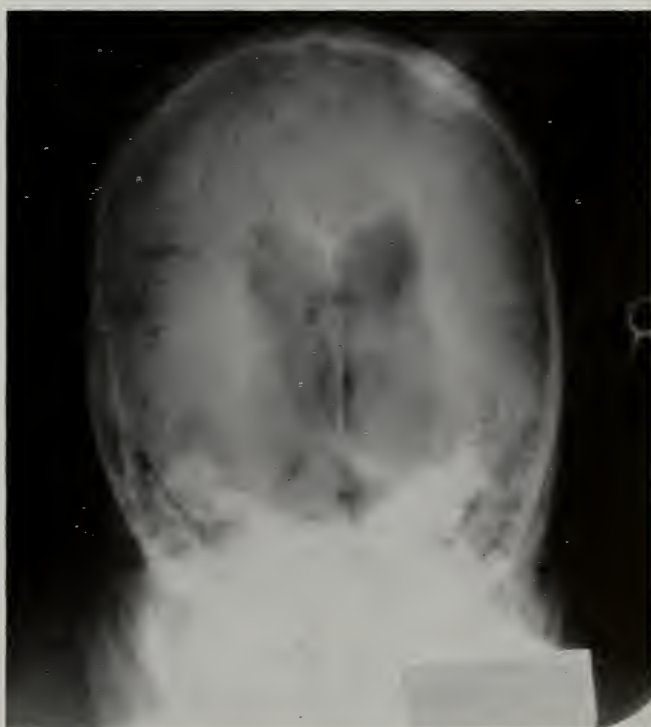
*Methods.* Acetylcholinesterase was estimated by the indicator method of Reinhold et al.<sup>26</sup> and Davies and Nicholls<sup>9</sup> using acetylthiocholiniodide as substrate and the technique for field test on whole blood described by Augustinsson<sup>1</sup> in which the time is determined which is necessary to produce a change in the indicator corresponding to a specific pH. For demonstration of nerve endings in the skin the method of Ranvier was used and for estimation of succinic dehydrogenase activity in frozen sections the method described by one of us (H.S.B.)<sup>2</sup> using blue tetrazolium as hydrogen acceptor. The haemoglobin values varied between 14.7 and 16.0 gm./100 ml., the M.C.H., the absolute and differential W.B.C. counts and the platelets were normal. The volume of packed R.B.C. was 41% and the corrected B.S.R. 46. Kahn and Hinton tests were negative. The total blood cholesterol was 180 mg./100 ml. and the cholesterol esters 130 mg./100 ml. The urine findings were normal on several occasions. The B.M.R. was +6%, the protein bound iodine on September 5, 1959, was 7.4 mg/100 ml., and the <sup>131</sup>I uptake by the thyroid gland was 36%.

Whole blood acetylcholinesterase activity was 15 minutes compared with 17-23 minutes in several normal controls. This corresponds to  $\Delta$ pH/hr. 1.6. The 17-ketosteroid urinary excretion was 2.435 mg/24 hours (.19 mg/100 ml.).

Skin biopsies were taken from thigh, chest, and subaxillary region. The histological findings were as follows:

The skin shows in all three places a marked hyperkeratosis without parakeratosis (Fig. 3). The stratum lucidum is almost absent and the stratum granulosum well-developed, in several places hyperplastic (Fig. 4). Hyperkeratotic plugs were only occasionally seen. The epidermal pegs were either short or slender and several showed dove-tail branching. The cutis vera showed marked patchy infiltration with lymphocytes, a few plasma cells and a fair number of mast cells (Fig. 5). The sweat glands in the subaxillary region were greatly distended with inspissated secretion and resembled those in pregnancy (Fig. 6); those in the other regions were normal. Sebaceous glands were scanty, but normal in appearance. Sensory nerve endings were normal in appearance: free nerve endings, Merkel- and Meissner corpuscles were abundant and an occasional Vater-Paccini corpuscle was seen (Fig. 7).

The histochemical demonstration of succinic dehydrogenase activity showed a higher level than in the control: The stratum Malpighii was studded with crystals of blue diformazan while in the control the corresponding layers contained only red monoformazan; blue diformazan was seen in the control sections only in the hair follicles (Figs. 8 and 9). In some sections of the patient's skin also a diffuse red staining of the corni-



F.G. 2. a, b, c, d. Pneumoencephalograms of case 1. . . . . indicates the Chamberlain line.



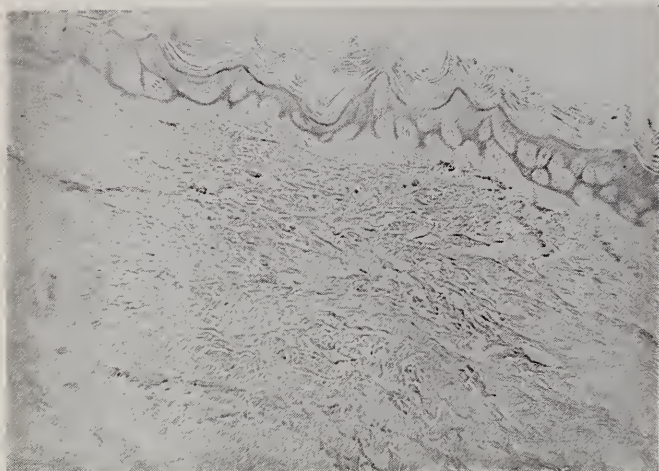


FIG. 3. Skin showing hyperkeratosis and dove-tail shaped interpapillary epidermal pegs.H.E.

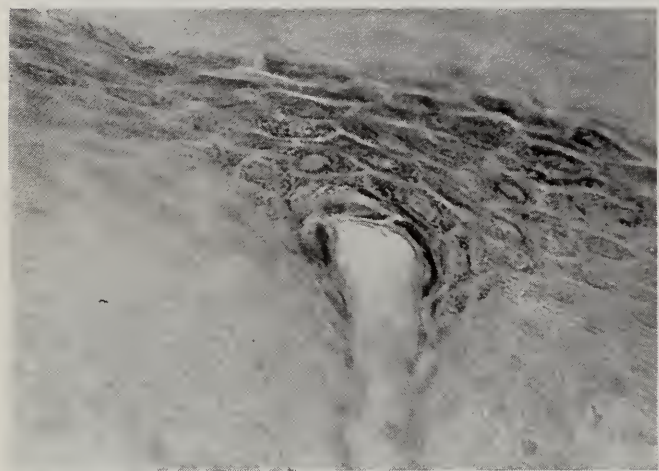


FIG. 4. Skin showing hyperplastic stratum granulosum.H.E.

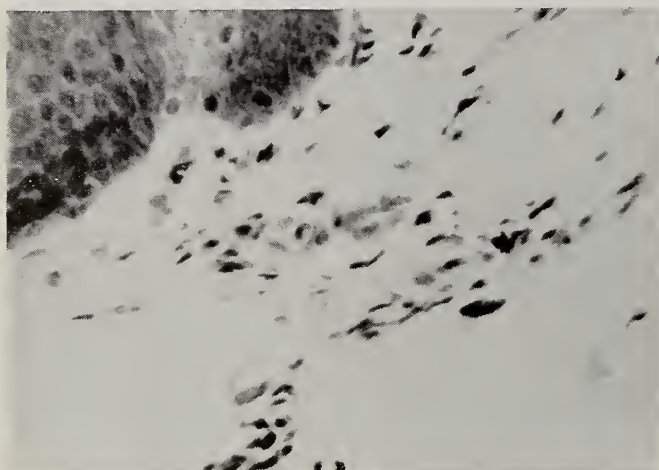


FIG. 5. Skin showing cellular infiltration of cutis vera including a fair number of "mast cells." Carbolic thionine.

fied layer was seen; this was due to diffusion of abundant enzyme and impregnation of dead cells by formazan dissolved in the oily substances. The control was a somewhat atrophic skin, but normal skin examined on several other occasions showed only mildly higher activity.

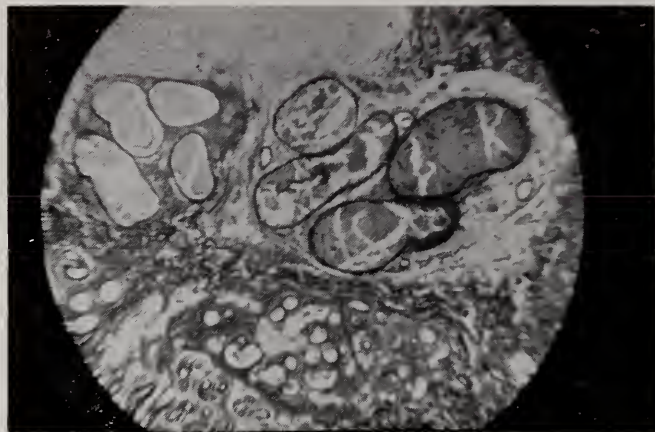


FIG. 6. Skin of subaxillary region. Haidenhein's Azan.

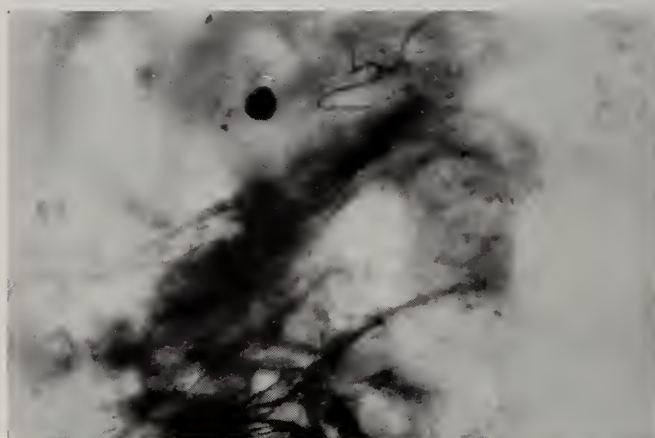


FIG. 7. Sensory nerve endings of the skin. Ranvier-method. Teasing preparation.

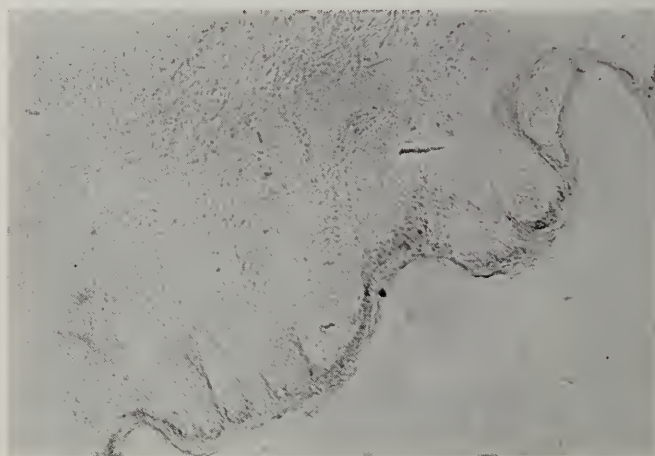


FIG. 8. Succinic dehydrogenase activity of a control skin. Blue tetrazolium reaction.

Patient No. 2, was born in 1917. The personal history is practically identical with that of his sister. His I.Q. was 35 on the Stanford-Binet scale on April 27, 1959.

The skin over the trunk and limbs is dry, rough, and shows a uniform fine scaling with scattered peeling



areas but the skin of the face is not affected. The jaw jerk is exaggerated; otherwise, the cranial nerves show no abnormalities. Motor system: Both lower extremities are paretic; the muscular strength of the upper extremities is preserved, but the right thigh is atrophied, the difference in circumference of the two sides being 1 inch. The hip, knee, and ankle joints are contracted, the first two in flexor, the latter in valgus position. Patient is unable to perform any extension of the lower limbs, and their resting position is that of maximal flexion. However, if the extremities are passively extended ( $40^\circ$  in the hips,  $30^\circ$  in the knee, and none in the ankle joints) the patient is able to flex them all actively. All tendon and periosteal reflexes are symmetrically exaggerated. Bilateral Hoffmann, Babinski, Bing, and Chaddock. The touch, pain, and thermoesthesia are decreased over the upper extremities following neither segmental nor peripheral nerve distributions and our impression is that this phenomenon is of no neurological origin but secondary to the physical alteration of the skin. The coordination of the upper limbs is normal.

The ophthalmological findings were as follows:

There is an anisocoria, the left pupil being larger (diameter of the left pupil is 6 mm., of the right 3 mm.).

"The pupillary reaction on the left eye was prompt and on the right eye sluggish. The vision test was performed with a picture chart for children and it was found that the left eye had a vision of about 3/30 and the right eye only 3/70. It is of course possible that the mental status of the patient has influenced this test.

"Homatropine drops were used to dilate the pupils. The left pupil dilated very well while the right pupil became not quite middle large. The reason for this lack of good dilation on the right eye was probably the fact that there were quite a number of posterior synechiae. On the left eye there were, too, such synechiae, but the pupils dilated very well.

"The fundus on the right eye was pretty hazy as far as one could see it, but there were some chorio-retinal changes. On the left side the fundus could be examined very well. Disc and retinal vessels appeared normal, but there were many chorio-retinal spots, partly pigmented, all over the fundus, not only in the macular region.

"There is no doubt that in both patients the uvea was diseased either only in the chorio-retina or together with the iris. From this involvement of the iris I must conclude that an inflammatory factor played a role in this disease either in foetal life or later on."

A pneumoencephalogram was performed on February 23, 1960. 150 cc. fluid was removed and 140 cc. air was injected.

The plain skull films disclose basilar impression.

The PEG shows considerable amount of subarachnoid filling; more pronounced on the left side. The gyri and sulci are well outlined throughout. Marked separation of the intracranial content and the inner table of the skull is seen over the occipital and occipito-parietal

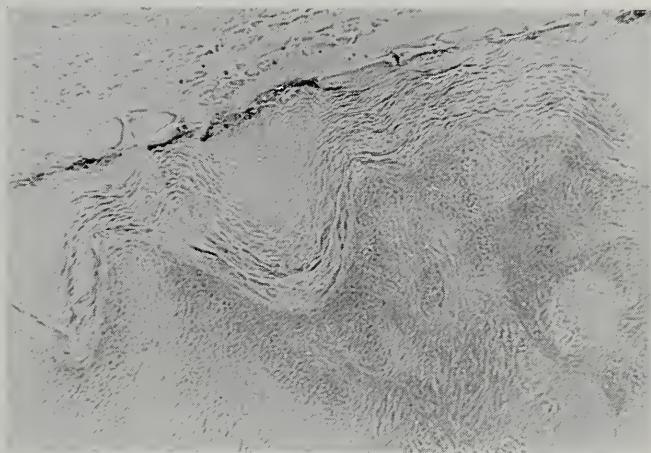


FIG. 9. Succinic dehydrogenase activity of the skin of patient 1. Blue tetrazolium reaction.

areas and in a somewhat lesser degree over the fronto-parietal areas and around the frontal pole. The inter-hemispherical sulcus is somewhat widened. The pons is well outlined and the interpeduncular cistern of normal size. There is some infratentorial air seen outlining a mild degree of cerebellar atrophy. The supracallosal sulcus is in normal position. There is no visualization of the lateral ventricular system and the 3rd ventricle, which appears to be enlarged, is faintly outlined by some air.

Thinking that the failure of visualizing the ventricular system was related to certain technical difficulties, an A-P and a lateral picture were taken 48 hours after the procedure. At this time air still can be seen outlining the cortical atrophy and two small air collections indicating the incomplete filling of the lateral ventricle and a small midline air collection indicating the 3rd ventricle (Fig. 10).

Summary: Diffuse cortical atrophy (considerable enlargement of third ventricle), basilar impression.

#### Laboratory findings:

Repeatedly carried out blood examinations showed haemoglobin levels between 13.0 and 15.0 gm./100 ml., R.B.C. between 4.3 and 5.0 millions/cmm., a mean corpuscular haemoglobin of 30.0 to 30.6 and a white blood cell count between 4,800 and 8,500. The differential counts, the platelets, and the appearance of R.B.C. were within normal limits. In March, 1959, he had melaena (benzidine test++++). The gastric acidity was 28 with no free HCl. No lactobacilli were seen in the gastric lavage and an x-ray examination showed no evidence of neoplasm. No cause of the melaena was ascertained. The B.M.R. was +87% on June 10, 1959, and +43% on June 12, 1959, but on both occasions the patient was very restless. When the test was repeated on June 17, 1959, the B.M.R. was +14%. The P.B.I. was 6.4 g/100 ml. and the  $^{131}\text{I}$  uptake by the thyroid gland was 28%.

The urinary excretion of 17-ketosteroids was 6.54 mg./24 hours ( $=0.251$  mg/100 ml). Routine urinary



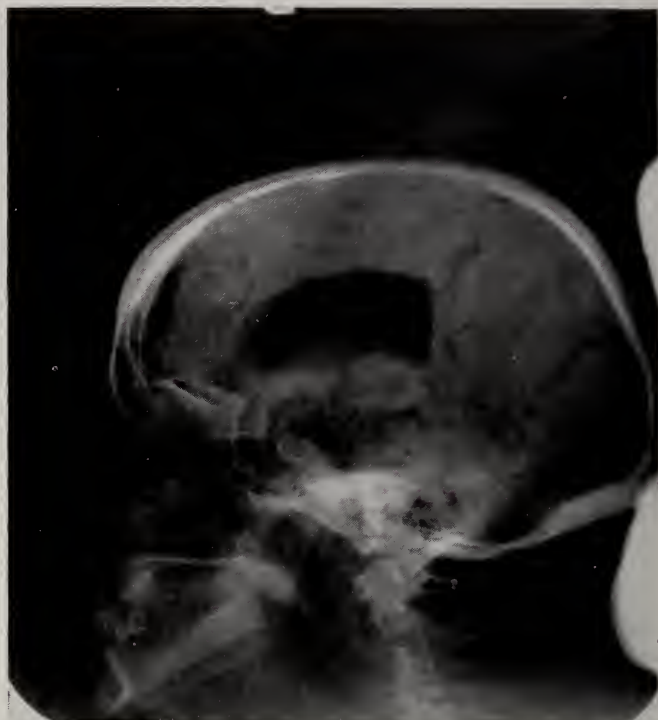
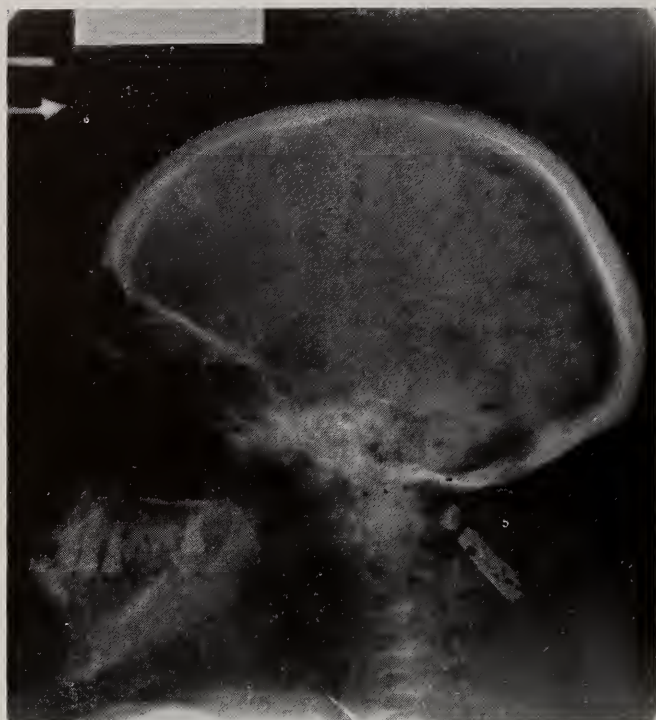
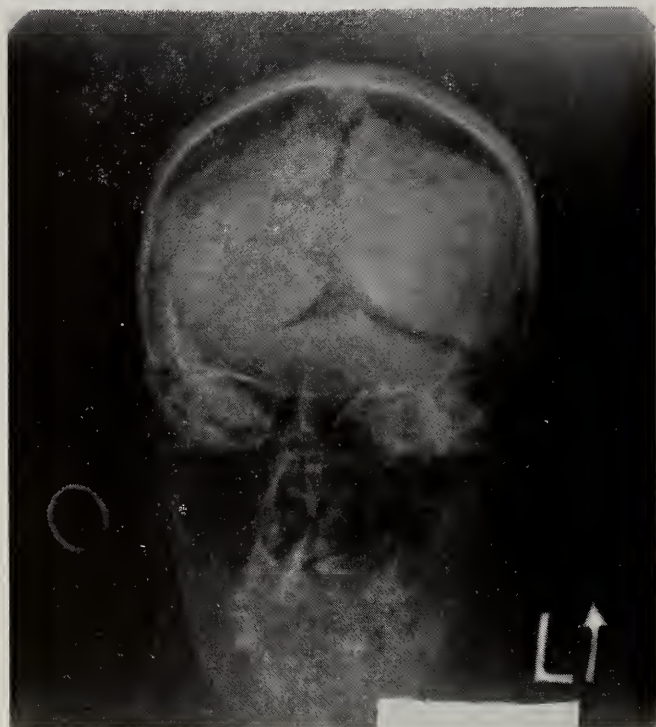


FIG. 10. a, b, c. Pneumoencephalograms of case 2.



findings were always normal. His whole blood acetylcholinesterase was 12 minutes corresponding to  $\Delta$  pH/hr. 1.99.

#### DISCUSSION

There are a variety of factors which may be responsible for the frequent association of feeble-mindedness with diseases of the skin. A classification of such skin disorders according to the supposed causative mechanism was proposed by *Touraine*<sup>33</sup> who separated in this way four groups of skin diseases in oligophrenia, namely:

- (1). symptomatic skin disease,
- (2). secondary oligophrenic ectodermoses in which mental deficiency and skin disorders are secondary to a common cause, usually an endocrine disorder,
- (3). primary oligophrenic ectodermoses in which both central nervous system and integument are involved in a developmental disturbance due to a genetic abnormality,
- (4). dysembryonic ectodermal oligophrenias due to disorganisation of embryonic tissues resulting from a noxious agent acting during the foetal life.

For the understanding of the two cases presented in this paper the following findings are of importance:

(1). The skin disorder is associated with a typical neurological symptomatology which is identical in both siblings and also identical with the findings in Sjörgren and Larsson's cases. These findings separate clearly the syndrome of Sjörgren-Larsson from that of Rud<sup>27</sup> in which epilepsy is associated with ichthyosis. Mental deficiency was present in nine out of 11 reported cases of Rud's syndrome, but was absent in the two original patients of Rud<sup>27</sup>. No autopsy reports of the Sjörgren-Larsson syndrome have been published and only one in Rud's syndrome. In the latter only changes commonly seen in an epileptic brain were found (Stewart)<sup>32</sup>. The pneumoencephalographic findings in our two cases on the other hand suggest a diffuse sclerotic atrophy with widening of subarachnoid space and dilatation of ventricles, the first one more marked in Case 1, the second in Case 2.

In addition, both cases have a basilar impression. No statement concerning foramen magnum is made in the other published cases. By the neurological symptomatology and the comparative frequency of degenerative macular changes the Sjörgren-Larsson syndrome appears to be a well-defined morbid entity different from Rud's syndrome and other mental disorders associated with ichthyosis.

(2) The skin pathology in Rud's syndrome is reported as ichthyosis, usually on the basis of clinical appearance, without histological examination. In Sjör-

gren's cases it is reported as erythroderma ichthyosiforme. Some authors use the two designations as synonymous (Ewing)<sup>11</sup>. However, erythroderma ichthyosiforme has been reported as separate entity by Brocq<sup>7</sup> in 1902 and appears to be identical with Sangster's<sup>29</sup> congenital exfoliation and Rasch's<sup>25</sup> "erythrodermia exfoliativa universalis" (not to be confused with Ritter's dermatitis exfoliativa neonatorum). There are important histological differences between ichthyosis vulgaris and erythroderma ichthyosiforme and these have been listed by Laymon and Murphy<sup>17</sup> as follows:

<i>Ichthyosis vulgaris</i>	<i>Ichthyosiforme erythroderma</i>
Appears at young age not strictly congenital	Strictly congenital
Localisation: folds, palms, soles spared. Moderate hyperkeratosis	Palms, soles, folds, most intensely involved. Extreme hyperkeratosis sometimes papillomatous
Adjacent skin normal	Skin more or less red
Absolute dryness, no seborrhoea	Intense seborrhoea
No overdevelopment of hair and nails	Rapid development of hair and nails
Fixed evolution	Progressive course
HISTOLOGICAL DIFFERENCES	
Horny layer thick	Horny layer extremely thick
Granular layer sometimes diminished or absent	Granular layer usually hypertrophic
Stratum mucosum thin	Stratum mucosum thick
Papillary bodies underdeveloped	Papillary bodies long and irregular
Sweat glands and follicles involved (keratosis pilaris)	Overdevelopment of sweat and oil glands
Perivascular infiltrate	Inconstant perivascular infiltrate

The differences listed above are not all equally constant and significant. Lever<sup>19</sup> attaches most importance to the hypertrophy of stratum granulosum in erythema ichthyosiforme, Barker and Sachs<sup>3</sup>, among others, to a slight to moderate chronic inflammatory process in the corium. Presence since birth, conspicuous stratum granulosum and chronic inflammatory process in the corium justify the classification of the skin disorder in our two siblings as erythroderma ichthyosiforme. From the brief histological reports in Sjörgren-Larsson's monograph it appears that the skin pathology in their cases was identical.

Similarly, neurological symptoms and skin pathology

differentiate the Sjörgren-Larsson syndrome from xerodermic idiocy. In addition, the latter shows a mode of inheritance different from that in congenital ichthyosis. The gene of xeroderma pigmentosum is believed to be located in the homologous segments of sex chromosomes that of sex linked ichthyosis is apparently a holandric gene (Dodson)<sup>10</sup>.

(3). A great number of studies have been reported which attempt to elucidate the relationship between Vitamin A deficiency and hyperkeratoses, particularly Darrier's disease (keratosis follicularis) and anhydrotic ectodermal dysplasia, which both are not infrequently associated with mental retardation (Cockayne<sup>8</sup>, Halperin



and Curtis<sup>13</sup>). Both, however, appear to be due to a genetic defect which affects the development of tissues of ectodermal origin. An inherited defect in the absorption of provitamin A has been suggested by Peck et al.<sup>22</sup> Leitner and Moore<sup>18</sup> claimed an impaired liver function, but Porter and Brünauer<sup>24</sup> could not confirm this claim. Neurological lesions of Vitamin A deficiency are, according to Wolbach and Bessey<sup>38</sup>, entirely mechanical in origin, resulting from skeletal changes described by Mellanby<sup>21</sup>. None of these changes were present in our patients. Even less support can be found for correlating the Sjörgren-Larsson syndrome to developmental abnormalities such as described by Warkany<sup>35</sup> and his associates<sup>15,35,36,37</sup> in the offspring of Vitamin A deficient rats.

Abnormalities of the endocrine glands are not rarely associated with hyperkeratotic skin diseases and oligophrenia. Vincent<sup>34</sup> and later Porter<sup>23</sup> claimed that thyroid dysfunction is present in ichthyosis with or without mental deficiency.

In our two patients there is no evidence of Vitamin A deficiency or of hormonal dysfunction: there is no hyperkeratosis follicularis, no xerosis conjunctivae, the B.M.R., the protein bound iodine and the <sup>131</sup>I uptake by the thyroid gland were within normal limits. There is no abnormality of secondary sex character and the size of testicles in the male patient is normal. The daily excretion of 17-ketosteroids was markedly reduced in both brother and sister. The cause of the low level is not explained, but being present in male and female it is obviously not of gonadal, probably of suprarenal origin.

(4). Henrichs<sup>14</sup>, who studied seven Norwegian families with 21 imbeciles including 17 who had ichthyosis, assumed that mental and cutaneous manifestations are the result of an ectodermal defect which is determined by a single gene. Although the neuropathological findings in Sjörgren-Larsson's disease are unknown, the clinical neurological findings suggest a severe developmental anomaly. The skin, on the other hand, shows only hypertrophy and inflammatory changes which are difficult to explain as independent manifestations of a direct gene action, whether single or two independent genes in the same chromosome as has been suggested by Cockayne<sup>8</sup>. The same objection can be made to the hypothesis of Boeck<sup>4</sup> who assumed an abnormal ectodermal "Anlage" which manifests itself in the central nervous system and in the skin. A further argument against a genetic determination of both nervous and cutaneous manifestations of the disorder under discussion may be seen in the fact that the very thorough investigations of Sjörgren and Larsson indicated a single recessive gene. The occurrence in two siblings of healthy parents and four others possibly also affected fits well to this mode of inheritance. In families with ichthyosis on the other hand several modes of inheritance have been observed, such as dominance, irregular dominance, recessiveness, and definite sex linkage.

(5). Functional abnormalities have been in our cases clearly demonstrated by the markedly increased succinic dehydrogenase activity of the epidermis and by the raised cholinesterase level in the blood. We suggest, therefore, that in the Sjörgren-Larsson syndrome a cerebral center is involved which regulates the neurohormonal activity and thus the metabolic activity of the skin which becomes susceptible to physiological stimuli. The same explanation appears to be valid for the unique case of Fitzgerald and Booker<sup>12</sup> whose patient had a circumscribed microgyria and a partial agenesis of basal ganglia, suffered of erythroderma ichthyosiforme and developed at the age of 15 months a pustulosis vaccini-formis (=Kaposi's varicelliform eruption), a disease due to infection with the herpes simplex virus.

A similar hypothesis has been put forward by Lauthenthal<sup>16</sup> to explain the association of ichthyosis with feeble-mindedness, polydactyly, arachnodactyly, endocrine disorders such as diabetes, endogenous adiposity, acromegaly, and hypogenitalism. He suggested for all these disorders a common involvement of the diencephalic-hypophyseal system.

In our opinion the Sjörgren-Larsson syndrome — and probably also the Rud syndrome — should not be listed in the same group of "neuro-ectodermal diseases" as tuberous sclerosis, neurofibromatosis, and neurocutaneous angiomatosis. It is rather an inherited disorder of the central nervous system with a secondary functional disturbance of the integument. The latter may be considered as a trophic change of the skin which results from the disease of the central nervous system.

The ocular changes described by Sjörgren and Larsson may be part of the genetic effect, but in our two cases they are in part also secondary, according to the ophthalmologist who examined these patients, due to an "inflammatory factor either in foetal life or later on."

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*Continued on page 207*



# Hypertelorism In Association With Male Chromatin Pattern In A Female\*

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HANS V. MAUTNER, M.D.\*\*\*\*

In the following the unique association of hypertelorism with basilar impression and Turner's Syndrome will be reported.

This 5½-year old white female's history discloses a paternal aunt who died at the age of three months (cause undetermined). The mother had two miscarriages prior to having been pregnant with this patient, and received thyroid extract medication throughout her pregnancy. The baby was born with the aid of high forceps, and "was badly bruised." She spent the first two weeks of her life in an incubator. A systolic heart murmur was detected at this time. Her somatic and mental development have been retarded. At the age of three years a hemangioma was removed from the left lower extremity.

Examination shows a well-nourished girl who appears to be younger than her chronological age. Head and face have a bizarre appearance. Head circumference 44.5 cm. Face-skull ratio 3:4½. Interpupillary distance 7 cm.; breadth of head 12.1 cm. (ratio equals 0.58; 0.56 upper limit of normal)<sup>24</sup> (Fig. No. 1). The nasal bridge is broad and flat. Cubitus valgus and club feet are present. There is a generalized muscular hypotonia (feet can be placed behind the neck and shoulders can be approximated in front of the chest with ease) (Fig. No. 2). On general physical examination a grade 1 systolic murmur is the only abnormality. The appearance of the external genitalia is of female character and corresponds to her age. Rectal examination reveals no abnormality. No abnormality on neurological examination. She does not speak spontaneously. Her vocabulary is poor. I.Q. 50. Laboratory examinations: CSF is of normal pressure and of normal protein and cell content; hematology, serology, and blood chemistry show no abnormalities; PBI 6.4, total 8.8 mg%; <sup>131</sup>I uptake 38.4%.

X-ray examination of the elbow shows an increased

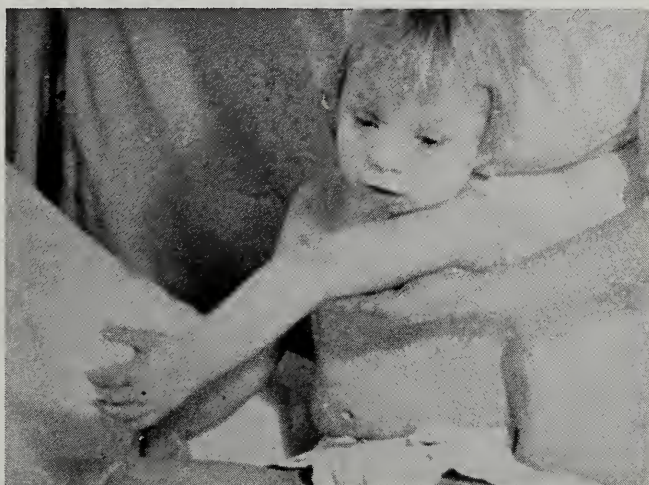


FIG. 1. Showing increased pupillary distance, flat bridge of nose and cubitus valgus.



FIG. 2. Showing general muscular hypotonia.

carrying angle; x-ray of the wrist indicates a bone age of three (Fig. No. 3). Plain skull films show widening of the space between the two orbits and enlarged ethmoid sinuses. The frontal sinuses are normally developed (Fig. No. 4). The sella turcica is of normal size. Basilar impression (Fig. No. 5).

Pneumoencephalogram reveals no abnormalities.

Sex chromatin determination (buccal mucosa) reveals chromatin negativity.

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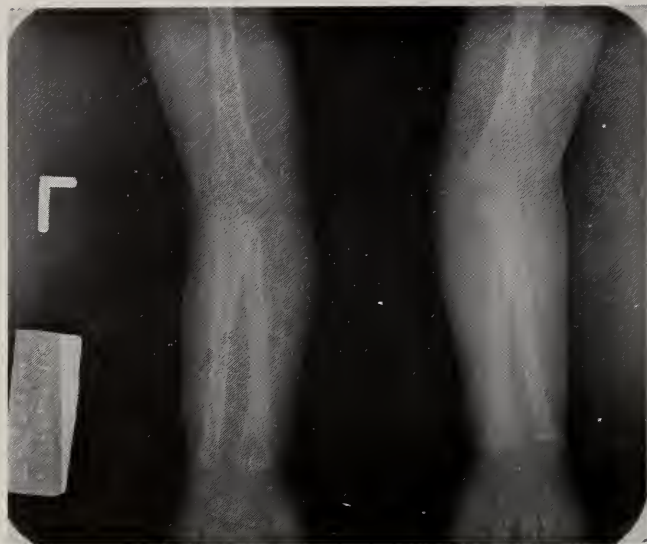


FIG. 3. X-ray photograph of forearm and wrist showing bone age of 3 years or less.

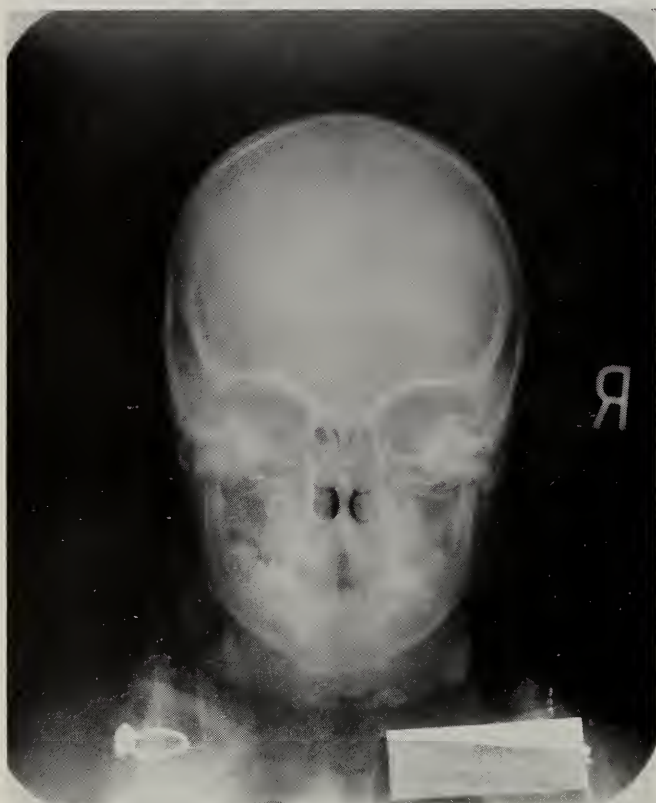


FIG. 4. X-ray photograph of skull showing increased distance of orbits.

#### DISCUSSION

Until recently, it has been believed that the cells of the human body contain 48 chromosomes — 24 pairs. The male chromosome is small and designated as Y; the other chromosome of this pair is larger and is referred to as X; this pair is called sex chromosomes. In the female, the sex chromosomes are both large, that is X chromosomes.

Recent developments of human genetics using advanced techniques<sup>12</sup>, disclosed the fact that men have



FIG. 5. X-ray photograph of skull showing basilar impression . . . . . indicates the Chamberlain line.

only 46 chromosomes — 22 pairs of autosomes and one pair of sex chromosomes.

Though Mittwoch<sup>29</sup> originally raised the idea (1952), it was not definitely proven before Jacob, Lejeune, and associates<sup>21</sup> (1959), that in Mongolism there is an additional autosome present. Whether these are apart from leukaemia<sup>8,9,15</sup> other diseases with an abnormal number of autosomes, and possibly cause of a certain percentage of intrauterine deaths, remains to be investigated.

On the other hand, investigations of abnormalities of the sex chromosomes have disclosed two well-defined pathological entities.

It was discovered by Barr and Bertram<sup>3,4</sup> that the body cells of males and females could be distinguished one from the other by microscopic examination. The nucleus of a female cell contains a minute dot of chromatin material which in the general tissue cells lies most frequently close to, or in contact with, the nucleolus and in this situation has been termed the "nucleolar satellite." It is particularly easily recognizable close to the nuclear membrane. Male cells do not possess this sex chromatin. Though proof is lacking, it is believed that the sex chromatin is derived from the fused heterochromatic portions of the sex chromosomes (XX). The sex chromatin contains desoxyribonucleic acid (and is therefore Feulgen positive), whereas the nucleolus contains ribonucleic acid (and is Feulgen negative). The sex chromatin is present in the earliest stage of development; it is of genetic origin and is independent

from the action of sex hormones and, therefore, of the external sex character.

Abnormal distribution of the sex chromosomes has been described in Turner's Syndrome and in Klinefelter's Syndrome.

Henry H. Turner (1938) described a triad<sup>35</sup> infantilism, webbed neck, and deformity of elbow (cubitus valgus) occurring in the same individual. This triad which occurs in apparent females is frequently associated with other congenital malformations, such as, small stature, digital anomalies, congenital heart diseases, renal anomalies, intellectual subnormality, and other developmental errors. Primary ovarian insufficiency was first demonstrated in this syndrome by Albright et al.<sup>1a</sup>

In 1954 Decourt<sup>11</sup> and associates first discovered that a considerable portion of these patients, who are females, anatomically as well as psychologically, appear to be "males" as judged by nuclear "sexing." They are sex chromatin negative, otherwise an invariable feature of males. This was confirmed by Polani<sup>32</sup>, and associates. It should be emphasized that these patients who have 22 pairs of autosomes<sup>13</sup> and an X chromosome are by their chromosomes neither males nor females (XO).

The Klinefelter's Syndrome is clinically characterized by testicular atrophy and pathologically by hyalinisation of seminiferous tubules with normal Leydig-cells. These males appear to be females as judged by nuclear sexing — they are chromatin positive<sup>22</sup>. Their chromosome map shows an additional sex chromosome (an X), thus displaying 22 pairs of autosomes and an XXY sex chromosome group. By their chromosomes they are males with an additional "female" sex chromosome.

There is a case reported by Ford and associates<sup>17</sup> in which the chromosome map was a combination of Mongolism and Klinefelter's Syndrome (45 autosomes plus XXY sex chromosomes equal 48 chromosomes).

Our case is a 5½-year old female who is sex chromatin negative and whose clinical symptomatology shows one sign of the Turner's triad, namely, cubitus valgus, but in addition, basilar impression, a genetically determined skeletal abnormality (Bull et al., 1955)<sup>7</sup> and hypertelorism.

Hypertelorism (Greig, 1924)<sup>20</sup> is a skeletal anomaly which consists of an abnormal distance between the orbits, broadening of the nasal bridge, and anomalies in the pterygoid wings. It is frequently associated with hypotonic muscles, club feet and subnormal mentality; the latter may be related to the poor frontal development of the skull<sup>23</sup>.

Hypertelorism was found associated with many different conditions, therefore, several authors do not consider it as a separate entity. However, Abernathy<sup>1</sup>, Benda<sup>5</sup> and others<sup>2,19,10,27</sup> collected observations which point to the fact that hypertelorism is a genetic disorder.

To the writers' knowledge, hypertelorism in association with an anomaly of sex chromosomes has not yet been described. It is open to hypotheses what role, if any, the thyroid extract medication given to the mother

during the pregnancy has played in the development of these multiple abnormalities.

Chromosome studies on bone marrow cultures are being carried out; the result will be the subject of another publication.

#### SUMMARY

The case of a mentally retarded, 5½-year old girl is described who presented the association of hypertelorism with gonadal dysgenesis (Turner's Syndrome) and basilar impression.

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# What The Physician Should Tell A Patient Who Is Afflicted With A Malignant Lesion

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At the present time, it must be acknowledged, the American people are suffering from a disease which, in some respects and from a spiritual, though not from a physical, point of view, is almost as serious as cancer itself. This disease is known as PUBLICITY and, as everyone knows, this affliction consists largely, if not wholly, of three closely related phases known as: BALLYHOO, BUNK, and BALONEY.

From morning until night, in almost every family in the land, its members are assaulted, over the radio and television, with news reports and commentaries on "What Is Behind the News." These reports, which are often repeated every hour, but chiefly in the morning and evening, give as many interpretations of current events as the number of reporters and commentators. Is it any wonder that the great majority of our people have been for some time, and are still, living in a state of what might be called 'suspended animation'? Many of them are afraid to think, while others refuse to exercise their cerebral functions. For them life has become a baneful series of crises. With usually unwelcome news thrown at them by radio and television, and by the newspapers and weekly magazines, and with all sorts of dire forebodings elaborated by feature writers and free lance artists, how can anyone wonder that a large percentage of our people have become so befuddled and confused that they no longer know what to think about anything.

During the past 25 or 30 years, also, the executive departments of our government, as far as the people's impressions are concerned, seem to have been run by press agents. Before that time, when the head of a department had some important announcement to make, he prepared his statement himself and signed it; and usually such a statement could be accepted at its face value, because it meant what it said. But since then most, if not all, the executive departments have hired Press Agents or, as they are more commonly known, Public Relations Officers, whose duty it is to prepare and issue to newspaper correspondents any statements that the heads of these departments wish to make. In nine cases out of ten these statements are worded, not so much to give to the public reliable information about any particular phase of the department's activities, but to make the public think what the head of the department wants them to think. In other words, it has be-

come a form of propaganda or brain washing. How, under these circumstances, can anyone rely on these statements?

How can anyone be surprised that the average American no longer has much faith in statements emanating from government departments? He has learned that they seldom mean what the words purport to convey, and that they must be largely discounted. No one can deny that this sort of thing has tended to lessen the faith of the people in their state or national governments.

People with simple and uncomplicated minds flair the half-truths contained in such statements as unerringly as a good hunting dog can discriminate between the scents of different animals that he may be trailing. Because their minds are not cluttered with the confusing elements introduced by sophistication, they can sense insincerity and deceit much better than can people with more sophisticated minds, who are so imbued with the false importance of their artificial concepts and with their own cleverness that they often follow the shadow and miss the essential substance.

Who has not heard or read about what the Madison Avenue "Persuaders" have been doing to the people of this country? The recent Quiz scandals have served one useful purpose; they have made it clear that the moral standards of our people have undergone an appalling deterioration. But because the unscrupulous and shameful practices so glaringly revealed had served to increase the sale of the sponsors' goods, there are many who would condone these practices and who fail to see the danger to our society of uncontrolled and irresponsible publicity.

It must be admitted that the tidal wave of publicity about Cancer which, has been unleashed during the past 20 or 25 years, has had some favorable effects, but it also has had some undesirable effects. One of these undesirable effects has been to engender among a great many people a natural, but excessive and unreasoning fear of cancer. So great has become this fear among certain naturally apprehensive people that life for them has become an almost uninterrupted series of Scares. Almost every slight physical disturbance and almost every symptom the cause of which is not obvious gives rise to a new scare. In some cases, especially when some form of cancer is known to have occurred among a person's ancestors, life has become hardly worth living. Some of these people are so imbued with the notion that they are doomed to become the victims of cancer

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that they haunt doctors' offices and spend a considerable amount of money for one examination after another, only to be informed that no evidence of malignancy can be found.

Among many ignorant people, as well as among others who cannot be rated as ignorant but who have little understanding of physiology and pathology, the word "cancer" has a sinister implication; it is often compared to a malignant crab with its claws and tentacles. This idea has come from the Latin word 'cancer,' which means 'crab.' In the zodiac the symbol of the sun at the summer solstice is called 'cancer' and is represented by the figure of a crab. For many people, also, the idea of cancer seems to have a disreputable connotation, as if something shameful were attached to a person so unfortunate as to become afflicted with this kind of lesion.

One problem that every physician in active practice frequently has to face is how to impart to a patient the fact that he is affected with a malignant process. When the neoplasm is clearly in an early stage, when there is every prospect that it can be removed *in toto*, and when a complete and permanent cure can reasonably be expected, the problem of what to tell the patient is relatively simple, because the hope of a satisfactory outcome can buoy up the patient and make it possible for him to accept the idea of an operation; but even then, a certain degree of discretion is preferable to any amount of valor; indeed, too much valor may subsequently boomerang in the event that recurrence should later ensue and make the patient's physician realize that his original prognostic impression had not been as accurate as he had assumed.

The problem of what to tell a patient who is discovered to harbor a malignant condition in a border-line or advanced stage, and especially when the situation is complicated by more or less extensive metastasis, is a much more serious and difficult one. What the patient is told, and how this information is conveyed to him, seems to depend largely, if not wholly, on the temperament of the physician himself. Some physicians are inclined to think that, since the patient has consulted them, he should be told the straight and unvarnished truth about his unfortunate condition and what is responsible for his major symptoms.

Other physicians who are more humane, who can place themselves in the patient's position, and who are able to understand his fears and feelings, are more inclined to word their diagnosis and prognosis in more considerate terms. Since physicians are as much members of the human race as their patients, a certain degree of consideration might be expected of a greater number. Unfortunately, owing to a variety of factors, many physicians, especially among those who work in large medical institutions, have lost touch with humanity, so to speak, and are no longer able to consider a medical situation from the patient's point of view. They seem unable to appreciate the horror and discouragement that

the word 'cancer' implants in the minds of most patients when they are told that they are affected by any form of malignancy. And because they are so busy, these physicians do not feel that they can spare the time to try to dispel some of this quite natural fear, even when the malignant process is known to be in an early stage and when the prospect of its complete eradication can reasonably be entertained. Sometimes, on the other hand, feeling certain that a complete and permanent cure may be expected from a radical resection of the tumor, some physicians are unduly optimistic in their prognosis and thus give rise to expectations that tend to make the patient careless.

Some physicians are unnecessarily, and sometimes crudely, blunt, and some are actually brutal, even when the diagnosis is not absolutely certain. Of course, they think their diagnosis is correct, and usually it is, but sometimes subsequent developments make it evident that the diagnosis could not have been accurate. When this occurs, what must the patient and his relatives think of the physician who was so certain that the patient's condition could not have been due to anything but a malignant neoplasm? But even when the diagnosis is correct, it is not surprising that the patient and his relatives should be wroth towards the physician who was so tactless as to tell the patient the whole truth in the bluntest possible terms. This sort of thing happens more frequently than is generally realized, and it cannot but leave a bitter feeling on the part of patients and their relatives who have been treated in this manner.

I have known a considerable number of cases in which an attending physician had made an absolute diagnosis of carcinoma with metastasis in an advanced stage, and in which the patient had been told that his condition was hopeless and that he could not expect to live more than six months to one year, but in which, as it turned out, the patient was afflicted with a chronic form of lymphoblastoma and survived for five or ten years, or even longer, as the result of well-planned radiation treatment, or even without any treatment whatever. I know of several cases in which a diagnostic error of this kind had been made and in which the patients were still living twenty-five or thirty years after a diagnosis of advanced carcinoma had been made.

Consequently it is seldom wise for a physician to be too absolute in his diagnosis and even more so in his prognosis. I could cite many cases in which, although an accurate diagnosis of carcinoma had been made, the patients survived much longer than one would expect in the average case of the same kind; and this can happen irrespective of the kind of treatment that the patient may have received.

During more than thirty years of active practice in an important medical institution, where a large number of patients were referred for treatment with X-rays and radium, I had to face almost every day the problem of whether to tell a patient that the symptoms of which he complained and the deterioration of his health were



due to a malignant process, how much of the truth the patient should be told, and how this knowledge should be imparted. In most cases, fortunately, this task had already been performed by the internist or surgeon who had previously examined the patient, but however surprising it may seem, many patients had retained only a vague idea of the essential truth.

For a time during the early phase of this protracted period, I was often puzzled how to deal with the problem in a particular case, but gradually it became evident that certain important considerations were paramount: the *temperament of the patient*, his *social and financial status*, and his *family circumstances*. I also learned that, before making any statements to the patient himself, it was usually wise to talk with one or more responsible members of his immediate family. In a great majority of cases such a brief conference solved the problem forthwith, because the husband, the wife, or some other responsible relative, requested that the patient should not be told the true character of his affliction.

Almost never is it necessary or advisable to tell the patient the whole truth, but *neither is it necessary to tell him any falsehood*. Perhaps the most important point is to avoid using the word 'cancer,' but to use the word 'tumor' instead. For most patients this has a much less sinister connotation. To a responsible relative it may or may not be wise to mention that the patient has a malignant tumor, but even in such cases one must be careful to size up the temperament of the relative before saying too much. Time and time again a relative who has requested that the physician should not impart to the patient the fact that he is suffering from a malignant process will, sooner or later, blurt out the unpleasant truth to the patient. In many cases the patients suspect the truth and persistently question their relatives about what the physician has told them, and in some cases it seems impossible for the relatives to keep the truth to themselves. For this reason it is advisable, whenever this is possible, for the physician to talk with two or more relatives in order to estimate their discretion and how far they can be trusted.

In many cases the physician may find a member of the clergy of the greatest usefulness, because some clergymen are on such close terms with some of their parishioners that they have intimate knowledge of the peculiarities and frailties of the patient and of his relatives. But this is not always true, especially when the patients do not have any religious affiliations. Another point is that clergymen also have temperaments or prejudices, and some of them do not deserve a medal for diplomacy. The physician, therefore, must use his best judgment according to the circumstances in each case.

Not infrequently, of course, the patient himself is aware that he is suffering from a malignant condition, or at least from a serious and perhaps hopeless disorder, but being anxious not to cause undue anxiety for the wife or husband, or for some other near and dear rela-

tive, he may conceal his suspicion or knowledge and may do his utmost to make those whom he loves believe that he expects to get well again. I have seen remarkable examples of this solicitude on the part of patients who knew that they were doomed to a more or less early death.

One case which I remember particularly concerned a boy of 14 years. He and his father and mother had come a long distance to have the diagnosis of his condition verified. For two or three years the lad had been losing strength; he had felt tired all the time. Some months after the onset of this lassitude, he had begun to have periodic bouts of fever, he had become rather pale, and a physician who had examined him had found some enlarged lymph nodes in the neck, armpits, and groins. These enlarged nodes had slowly increased in number and size, but even when he was again examined, more than two years after the onset of his malady, the nodes, though abnormal in size, were not very large. When one of these nodes in the neck was excised for biopsy, microscopic examination of sections revealed Hodgkin's disease. A blood count showed a leucocytosis of 22,000, and the differential count showed a rather high percentage of lymphocytes and of eosinophiles.

The fact that the nodes in all the superficial groups were abnormally large made it more than likely that some of the internal groups of lymph nodes also were affected. Indeed, the pathologic condition may well have originated in the retroperitoneal or mediastinal nodes. A roentgenogram of the thorax revealed moderate enlargement of some of the mediastinal nodes, and deep palpation of the abdomen disclosed a deep and diffuse, abnormal resistance which was probably caused by enlargement of some of the para-aortic nodes.

The results of the biopsy having confirmed the strong clinical suspicion of lymphoblastoma, the patient was referred for roentgen treatment. This treatment was arranged in daily sessions and was directed at first toward the abdomen and chest, and later toward the neck, armpits, and groins. Even before the first course of treatment had been completed, the enlarged nodes had begun to retrogress, and the patient's condition had begun to improve. One month later, no evidence of enlarged nodes could be found, the patient's strength had returned to normal, a roentgen examination of the chest no longer showed any enlargement of mediastinal nodes, and the leucocytosis had disappeared. The improvement in the patient's condition continued for about eight months, when he again began to feel tired, and some of the lymph nodes in the neck again began to enlarge; and a month or two later he again began to have a slight fever in the afternoon. It was evident, therefore, that the pathologic process had again become active. The patient's age and the extensive involvement of lymph nodes made it more than probable that he would not be likely to survive many years.

The patient was then given a second course of roentgen treatment in the same manner as in the first in-

stance. Once more his condition improved rapidly, and this improvement continued for more than one year, when some of the previous symptoms began to recur and a third course of treatment was required. This sequence of events continued to repeat itself for about five years.

The last time I saw the lad, it was evident that the pathologic process had now reached an advanced stage. Until then, he had not lost much weight, but a greater number of lymph nodes in the neck, armpits, and groins were affected, and these were now considerably larger than they had been at any previous time. The mediastinal and retro-abdominal nodes, as well as the spleen, were abnormally large, and the blood showed a considerable degree of anemia. His general condition also had deteriorated considerably. I knew that more roentgen treatment would be followed by some improvement, but I also knew that any improvement that might occur would not be likely to last long, and that the little fellow's days were counted.

But one thing interested me particularly. This boy knew perfectly well that he was on the way out of this world, although he not only avoided saying anything that might indicate to his parents that he knew, but he took great pains to make them think that he still expected to recover. Because this last visit happened to be in December, and because the lad and his parents knew they could not return home before Christmas, the father took me aside and asked where he might find a 22-caliber rifle as a Christmas present for his son because, he said, the boy had long yearned for such a weapon. I mentioned a store in Minneapolis where a rifle of this kind could be purchased at a very reasonable price — the proprietor of this store had been one of my patients some time previously — and that I would be going to Minneapolis in a day or two. Whereupon the father asked me if I would mind getting the rifle, with proper sights and a shoulder sling. Two days later, this commission was duly accomplished, and the rifle was carefully put away until Christmas.

On Christmas morning, when I stopped to call on the family — the boy had been in bed during his entire stay — I found him fondling the new rifle that lay beside him. I could also see that the lad knew quite well that he would never be able to make use of this long hoped-for weapon, but during all the time that I spent with them, he acted and spoke in such a way as to make both his parents and me believe that, as soon as he got well again, he would go out and practice target shooting with his new rifle. But during all this time the parents themselves, with whom I talked every day, apparently failed to realize that their son was putting on a show for their sake. This was a poignant scene that I shall never forget.

The boy's condition again improved during the ensuing six or eight weeks, but after this period his condition again worsened, and he died about three months after his return home.

Sometimes, on the other hand, one encounters a case

in which the patient's feelings and actions are in complete opposition to those of the boy whose sad story I have just related. Both of these instances, of course, represent extremes of human attitudes towards members of their families. In the great majority of cases the patients' attitudes are in varying degrees between these two extremes.

Occasionally a physician may have as a patient a person who occupies an important position in industry, in commerce, or in society, and whose position and responsibility make it necessary for him to be very active, sometimes in several directions at once. In such cases it may be essential for the patient to receive a definite, though tactful, warning that the time has come for him to begin to put his affairs in order. Frequently such patients are canny enough to know without being told what they have to face, but when some doubt remains in their minds, they may bring up the subject themselves. Then it is that the attending physician must diplomatically indicate the probable course of events. If I were to estimate the percentage of patients who fall in this category, I should put the figure at about 5 per cent. The interesting thing about most of these patients is that the idea of an early death does not visibly phase them very much, or they can at least put on a brave show of more or less complete indifference, especially if they have already reached a fairly advanced age; but even in younger patients, a remarkable thing is that, quite often, their illness has affected their judgment, and sometimes it has made them look upon death as a release from what has taken the joy out of their lives.

As an example of exceptional fortitude I might mention the case of a woman aged about 64 years who, during the First World War, had taken on the task of serving as Executive Secretary for three important Relief Committees, whose function it was to exert the utmost efforts to trace and help Belgian, French, and other allied war refugees, whose families had been broken up and dispersed all over Europe. For months on end she had kept three secretaries busy, and she had worked long hours every day.

One day, early in December, 1914 — this was in Paris — the chief surgeon of the hospital telephoned me that he was sending this lady to the hospital, because he had examined her and found carcinoma of the rectum. At that time he thought it might be possible, after a preliminary colostomy, to perform a radical resection of the affected portion of the rectum. During the first three weeks of her stay in the hospital (after the colostomy), I made it a point, when I made rounds in the evening, to come to her room last, so that I could chat with her. Having soon discovered that she liked to have someone read to her, I made it a practice to sit and read to her for half an hour every evening, and while I read, she busily continued to knit for her war refugees.

After having done this for about ten days, one evening, after I had been reading for about five minutes, the



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patient quietly stopped me and said: "Doctor Desjardins, you have been very kind, but I now find myself obliged to put your kindness to a more severe test. As you know, I am connected with three important relief committees, and for me this is a self-appointed task which I cannot neglect. Would you be so kind as to tell me whether or not it is time for me to seek someone to take my place if I should be obliged to give up my work? I am not afraid to die, but if that is on the cards, I must make certain preparations so that many other people who now depend upon me may not suffer unnecessarily."

I then told her that it might be wise for her to begin to put her affairs in order. Whereupon, she said: "Thank you very much; go on with your reading." Not by the blinking of an eyelid did she indicate the slightest disturbance in her equanimity. One who did not know her might have thought that she had not heard what I had told her. During her entire stay in the hospital, she continued to carry on her relief work; her secretaries came in the morning, and she spent most of her time dictating to them; and she continued to do this until about 72 hours before she died.

She was the daughter of a famous general of the Civil War, and she was a "chip off the old block." Such a degree of fortitude is not encountered every day. Even when their illnesses permit, and when they retain the use of their faculties nearly to the end, few patients have the courage to face death as bravely and gracefully as this.

One important group of patients deserves special attention. Precisely when the attending physician is trying to "size them up" and trying to determine how they are likely to react to the information that they are afflicted with a serious, and perhaps fatal, condition, one of these patients may spontaneously say: "Doctor, I wish you would tell me the truth about my condition, however bad it may be. I can take it." Most of these patients are the very ones in whose cases it would be dangerous for the physician to be too forthright. They think they "can take it," but the sad fact is that most of them do not have the character and the fortitude to face their unpleasant fate. If, in such a case, the physician allows himself to be deceived by the apparently matter-of-fact manner in which the patient has made this request, he may soon have the decidedly awkward experience of discovering that his patient in fact could not accept the truth about his condition, and he may soon find that the patient has become demoralized, sometimes to the extent of trying to do away with himself. But even when the patient does not try to commit suicide, he becomes a serious problem for his immediate relatives and makes life for himself and for them difficult and nerve-racking. The proportion of such patients is much greater than one would expect. As long as there remains a ray of hope, however tenuous it may be, most patients can bear up reasonably well, but when this tiny spark is extinguished by the physician, by some remark blurted out by some relative or by an unthinking

nurse in the hospital, the jig is up and no amount of expostulation and explanation can undo the harm that has been done.

In this connection I cannot avoid mentioning the unfortunate fact that, not infrequently, the attending physician, a hospital interne, or a nurse, is all too frequently responsible for some indiscreet remark made within the hearing of the patient himself or of some relative who may relay it to the patient. In our hospitals and clinics this sort of thing happens much too frequently, and it is most likely to happen in the very cases in which the utmost tact and discretion are necessary.

Occasionally a case is encountered in which the patient may have a malignant condition, but in which well-planned treatment, surgical or radiological, might well result in a complete and permanent cure, or at least in substantial and prolonged improvement. And yet, because of what the patient may have previously heard or read about cancer, he may be ready to "give up the ghost" and may refuse any kind of treatment. This is where a special brand of diplomacy is required. The important thing is to try to obtain the patient's confidence by a show of frankness, which must not be excessive, but which must nevertheless be sufficient to make a favorable impression. It must be admitted that this is not always successful, but the physician has at least the spiritual satisfaction of having done his utmost to make the patient realize that, if he throws away the chance that is available to him, the only alternative will be inevitable decline and death within a measurable, though not precisely determinable, period of time.

It must not be forgotten that some patients, who have had a hard and unhappy life, look upon death as a release from all their troubles. In such cases it is not surprising that they should be loath to subject themselves to what they consider unnecessary, or actually objectionable, therapeutic measures. They do not want anything done that would or could prolong their misery; and who can blame them? These, it may be said, do not usually present any problem, unless it be that of dealing with relatives who may have different ideas and who are not always as understanding as they might be.

Some of the most difficult cases are those in which the patients are non-conformists in religion, and sometimes in social relationships. Others may rebel against treatment because of ignorance and an inability to understand the simplest medical explanations. Some are persons of low intelligence who cannot understand anything that pertains to health and medical care, or who belong to religious or other sects that have the strangest ideas about life and health. In these cases one can only do one's best, but one thing is certain; this is that, however successful the treatment may prove to be, the doctor will never receive the credit which he may deserve. That credit will be given to some supernatural being or to the power of prayer.

When a reasonable degree of intelligence is present,

the patient can usually be brought to something like reason, but not always. Sometimes, in cases of this kind, a certain degree of bluntness may be necessary, but this should never go too far. Actual brutality is never admissible.

But physicians are almost as human as their patients, and their temperaments vary as much as do the temperaments of their clients. Being busy men, some of them are not as patient as they might be, and some have deliberately adopted the policy of telling most, if not all, their patients what they think is the matter with them. Moreover, they seldom take the time necessary to give explanations that might make a great deal of difference in the effect on the patients. But wait until these same physicians themselves become seriously ill, and especially if they should become the victims of some form of malignancy. Then there will be an opportunity to learn how they would feel about being told the truth too bluntly. Like most other people, some of

them can "take it," but others are likely to become blubbery cowards in the face of eternity. And this has little, if anything, to do with their ideas about religion. It is chiefly, if not wholly, a matter of their nervous systems and of their individual temperaments. It cannot be denied that religious ideas can have a considerable influence on the behavior of some persons, but when the old reaper approaches, the underlying character of the individual comes to the fore.

As far as I am personally concerned, I know that, if I should become afflicted with a malignant condition, I do not want to be told; I shall know enough without being told. Indeed, if my attending physician should undertake to enlighten me too definitely, I should feel like shooting him, although I should probably manage to restrain myself, if only to avoid a scandal for my relatives and for the community.

Walpole, Maine.

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#### THE INEFFECTIVENESS OF BLOOD TRANSFUSIONS ON THE PHENYLALANINE LEVEL IN PHENYLKETONURIA — *Continued from page 186*

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# Radical Surgery For Prostatic Cancer

DONALD F. MARSHALL, M.D.\*

Cancer of the prostate, occurs in about 20% of men over 55 years of age. Standard Urological texts<sup>1</sup> report findings of cancer of the prostate in several males under 15 years of age.

Prostatic cancer is insidious and seldom causes pain or symptoms until late in the course of the disease. It is interesting to note the increase in numbers of physicians who are doing more careful routine rectal and prostatic examinations and who are finding more suspiciously hard areas in an otherwise normal feeling prostate.

Various techniques have been devised and are in use to attempt an early diagnosis of cancer in these suspiciously hard areas. These techniques consist of needle biopsies through the perineum, trans-rectal biopsies, the serum acid phosphatase determinations, cytologic evaluation of prostatic secretions<sup>2</sup> and open perineal biopsies.<sup>3</sup> Some urologic surgeons, in the past, assumed all hard areas of the prostate to be malignant and performed radical prostatectomies without benefit of pre-operative biopsy. Needless to say, some unnecessary surgery must have been done in those instances.

The operation for radical perineal prostatectomy was devised in 1905 by Dr. Hugh H. Young<sup>4</sup> at the Johns Hopkins School of Medicine. Since this pioneer development for the cure of prostatic cancer, refinements in methods of anesthesia and medications have lowered the mortality figure in his large series from the 16.6% to no fatalities in a group of 98 radical perineal prostatectomies by Colston,<sup>5</sup> also of Johns Hopkins. A series of 52 radical perineal prostatectomies done at the Francis Delafield Hospital in New York City with only one operative death was reported by Hudson.<sup>6</sup>

At this point, the difference between a conservative and a radical prostatectomy should be reviewed. In a conservative operation only the enlarged adenoma is removed. This may be done by means of a transurethral resection or by suprapubic, perineal or retropubic approach. This leaves the prostatic capsule, much like a shell after the removal of a chestnut. In a radical operation, however, the prostatic capsule is also removed along with the seminal vesicles. In addition, the testes are usually removed and the patient placed on female hormones.

In response to queries from a number of colleagues over a period of time, the purpose of this paper is to review a series of 57 cases in which the problem of radical prostatectomy was imminent.

## RADICAL RETROPUBIC PROSTATECTOMY (11 cases)

Soon after Millin in 1946 introduced the technique of conservative retropubic prostatectomy urologists carried the procedure further to encompass the radical procedure. This was a large step forward particularly for those surgeons who had not been trained in the intricacies of the radical perineal prostatectomy.

A trans-rectal biopsy was used in one of these 11 cases but because of inadequate tissue for diagnosis and the considerable amount of post operative rectal pain this method of biopsy was not used again.

Two of these eleven patients were not suspected of having cancer but were found positive following trans-urethral resection for obstruction. In one of these the entire cancer had been removed at the time of resection as proved by final pathologic examination of the remaining tissue. One patient, the only one in this group on whom an open perineal biopsy was done, proved to have had total excision of the malignancy at time of the biopsy. In other words, radical retropubic prostatectomy showed no further evidence of cancer.

One radical retropubic prostatectomy was done in which the prostate was stony hard and thought definitely to be malignant. Pathologic study, however, proved it to be an unusual type of granulomatous prostatitis.

The radical retropubic approach does not permit ready access to or adequate exposure of the posterior capsule of the prostate for biopsy and frozen section. This is a very important point because it has been estimated that 85% of cancer of the prostate arises in the posterior capsule.<sup>7</sup>

It is extremely difficult to obtain adequate exposure for a meticulous anastomosis between the membranous urethra and the bladder neck. Because of this difficulty, two patients in this series developed diverticula of the bulbous urethra, one with a stone in the diverticulum.

Because of the short comings of the radical retropubic technique in the author's experience, this procedure was abandoned after 11 operations, and the radical perineal technique re-employed.

## OPEN PERINEAL BIOPSIES AND RADICAL PERINEAL PROSTATECTOMIES (46 cases)

Forty-six patients had open perineal biopsies. Frozen sections on 20 of these proved to be benign. Permanent sections on all of these tissues proved the accuracy of this diagnosis. Three of these patients had conservative perineal prostatectomies and one patient had a subtotal perineal prostatectomy because of obstructive symptoms.

\*From the Department of Urology, Maine Medical Center, Portland, Maine.

Twenty-six patients had radical perineal prostatectomies and seminalvesiculectomies done. Twenty of these had biopsies and frozen sections which were positive for cancer. Three of the twenty-six patients were not suspected of having malignancy but the pathology report following previous transurethral resection proved positive. In two of these patients the entire cancer was removed by a transurethral resection as was proved by careful study of the remaining tissue. In one patient the entire cancer was also excised by biopsy as was again proved by the permanent sections of the remaining tissue. Of the 26 patients, four had poor urinary control following radical surgery. It is very significant that three of these patients had had prostatic surgery prior to the radical perineal surgery. All 26 patients seemed to have an easier post-operative course and convalescence than the retropubic cases. There were no operative or post-operative deaths and no injuries to the rectum.

Radical perineal prostatectomy was done in one instance in which the malignant process was felt to be too extensive and fixed until reduced in size and softened by means of bilateral orchiectomy and the liberal use of female hormones as advocated by W. W. Scott.<sup>8</sup>

#### SUMMARY AND CONCLUSIONS

1. In this group of 57 cases there were no operative or post-operative deaths. Of the 57 patients in this series 52 are alive at the present time. One patient has survived 11 years. This series covers the period since 1949. The age range at time of surgery was 49-77.

2. Radical retropubic prostatectomies were done in 11 cases. It is felt that this is not the operation of choice because of lack of exposure of the posterior prostatic capsule for adequate biopsy and frozen section, and the great difficulty in obtaining a meticulous anastomosis of the bladder neck with the membranous urethra. Complications in the form of urethral diverticula resulted. Because of the many difficulties involved, this technique was abandoned and the radical perineal technique for prostatectomy was re-employed.

3. In 20 cases where open perineal biopsy was done for suspected cancer, the frozen section showed no malignancy. In 16 of these cases no further surgery was deemed necessary. In four cases conservative perineal prostatectomies were carried out for obstructive symptoms.

4. Accurate pathologic diagnosis was made in 100% of the frozen sections obtained as was proved by the permanent tissue sections.

5. The excellence of the technique and administration of anesthesia was notable in this entire group of cases.

6. Cancer of the prostate was unsuspected in five patients who had transurethral resections for prostatic obstruction. These later had radical prostatectomies.

7. Pathologic study of specimens following radical prostatectomy showed that in five patients the cancer

had previously been entirely removed at the time of open perineal biopsy or transurethral resection.

8. The patients who had radical prostatectomies usually had bilateral orchiectomy and were placed on female hormones.

9. One patient with extensive prostatic cancer was treated with bilateral orchiectomy and female hormones in order to reduce the size of the gland prior to radical prostatectomy.

10. In spite of the fact that radical prostatectomy usually renders the patient impotent, one man reported occasional satisfactory erections.

11. Transrectal biopsy was found to be inadequate and painful post-operatively for the patient and is not longer used.

12. Perineal needle biopsy is also felt to be inadequate, especially in small and early lesions and was not employed in this series.

13. Cytologic examinations of the prostatic secretion and serum acid phosphatase determinations were not used or relied upon in this series.

14. Incontinence is a hazard in all prostatic surgery. In this particular group of cases there was a higher incidence of incontinence in patients on whom the retropubic technique had been carried out (3 in 11); a still higher incidence of incontinence in patients who had had prostatic surgery prior to any radical prostatic surgery (4 out of 4); a significantly low incidence of incontinence in patients on whom the radical perineal technique had been carried out (1 in 26). This is another strong case in point for the technique of radical perineal prostatectomy.

15. Twenty-six radical perineal prostatectomies were done. Results prove that excellent exposure of the entire posterior capsule of the prostate for biopsy and frozen section can be readily obtained. In addition excellent visualization for careful anastomosis of the bladder neck and the membranous urethra make this the operation of choice. The post-operative course of patients done under this procedure appears to be smoother.

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142 High Street, Portland, Maine



# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

**These Are Highlights Of Social Security Changes**

Explicit provisions of the eldercare section of social security amendments which the Ways and Means Committee has approved will not be known until the bill itself is introduced. In general, here is what it will do: (1) Make "medically indigent" persons over age 65 eligible for Federal-state financial aid to pay health care bills; (2) participation will be at the option of each individual state and benefits would begin in June, 1961; (3) Federal share of cost will range from 50 to 65 per cent, depending on per capita income of the state; (4) states would determine scope of benefits and they could provide up to 120 days hospitalization a year, along with physicians' services, outpatient hospital care, major dental treatment, laboratory-x-rays and drugs up to \$200 yearly each, etc.

This new title (No. XVI) in the Social Security Act would authorize medical service payments for about 1 million persons 65 and over each year. Maximum state participation could give potential protection to about 10 million persons "whose financial resources are such that if they have extensive medical expenses they would qualify," said the committee. Estimated annual cost: \$325 million.

**ALSO FOR AGED ON RELIEF**

The committee bill, further, will liberalize Federal payments in the *existing* program under which contributions are made to the states to pay medical, hospital and drug bills for aged persons receiving public

assistance. More than 2 million persons would be affected. A more generous matching formula would become effective this October.

**COVERAGE OF PHYSICIANS**

All self-employed doctors of medicine, their numbers estimated at 150,000, would go on the social security rolls. Already covered are salaried doctors, all lawyers, dentists and other professional people. By blanketing in certain U. S. citizens working abroad and miscellaneous categories, an additional 150,000 persons would be added to the rolls.

**DISABILITY INSURANCE**

A few years ago Congress passed an amendment permitting persons becoming permanently and totally disabled to collect OASI benefits at age 50, instead of having to wait until they were 65. This was accomplished over protests of organized medicine. The latest proposed amendment does away with the age limit altogether. As a result, some 250,000 disabled insured workers and their dependents will qualify for benefits starting in the second month following enactment of this bill.

**MATERNAL, CHILD HEALTH**

Annual appropriations for maternal and child health services could go as high as \$25 million (present limit is \$21.5 million); crippled children's services, \$25 million (now \$20 million); child welfare, \$20 million

(\$17 million). Under child welfare services, a new authorization for research and demonstration projects paves the way for grants to public and nonprofit institutions.

#### MISCELLANEOUS PROVISIONS

The committee-approved bill draft also liberalizes social security work requirements; extends benefits to certain widows and children who are now not eligible and increases benefit payments to children in some categories; institutes improvements in the unemployment compensation system. No increase in social security tax is planned, nor will any change be made in the \$4,800 taxable earning base.

#### Capitol Deep In Health Issues As Session Wanes

Congress wants to quit four weeks hence, but a pile-up of health legislation may block achievement of that goal; or, what is more likely, comprise one more reason for reconvening Congress in August, after conventions are out of the way. A look at the situation —

*Eldercare* — The House Ways and Means Committee has approved, after nearly three months of hearings and closed sessions, principles of a plan to help the low-income aged meet medical expenses. But floor fight to reinstitute the Forand plan or something like it may be anticipated. Even if the more conservative version passes the House, Senate handling will witness determined effort to substitute the McNamara plan, which is even further left.

In a floor speech, Senator Pat McNamara (D., Mich.) attacked organized medicine for fighting the Forand-McNamara approach employing social security mechanism. Campaigning in California, Senator Stuart Symington (D., Mo.) voiced similar views. Labor's George Meany deprecated the Ways and Means rejection of Forand and its approval of "repugnant" scheme.

#### Administration Health Bill Has Four Titles

The bill which Secretary of HEW Flemming is asking Congress to enact authorizes (1) a 5-year program of construction subsidies for schools of medicine, osteopathy, dentistry and public health; (2) a major revision of Hill-Burton hospital provisions; (3) project grants to schools of public health, nursing and engineering to stimulate training of more careerists in public health specialties; (4) inception of a new system of Federal loan guaranties to encourage construction of office buildings and clinics housing group practice physicians and dentists. Taking them up separately, in same order —

#### TEACHING FACILITY AID

A total of \$100 million over a 5-year period is envisaged, \$75 million to be divided among medicine,

osteopathy and public health and the remainder among schools of dentistry. As in the existing program of research facility subsidies, dollar-for-dollar matching would be offered. Existing schools, in order to qualify for this type of aid, would have to show that it would *increase their training capacity*.

#### HILL-BURTON REVISIONS

Special project grants to help states and localities plan coordinated hospital systems are authorized. The existing annual ceiling of \$1.2 million for grants in hospital facilities research is abolished. Emphasis is placed on long-term care, with fund authorization for this type of facility increased by \$10 million. Authorization of grants for diagnostic and treatment centers is decreased by \$10 million. Many technical changes are made.

#### CAREERS IN PUBLIC HEALTH

No ceiling is placed on projects grants that may be awarded to professional schools engaged in training and qualification of physicians, nurses, engineers and others for public health duties. Long-range financing is permitted, easing the task of stabilizing projects.

#### GROUP PRACTICE ASSISTANCE

This title of the proposed bill is the most novel of the four. It places the Eisenhower Administration in role of champion of *group* medical and dental practice, as opposed to *solo*, by guaranteeing repayment of loans which such groups borrow for construction of facilities. The U. S. would collect a nominal fee for each guaranty, creating a fund to be used for administration and making payments in event of default. Guaranteed indebtedness at any one time is limited to \$30 million.

"Since groups offering prepayment plans would be eligible for assistance under this title, the program would stimulate the growth of private, voluntary systems providing comprehensive coverage of the costs of medical care," said Secretary Flemming.

#### USPHS Asking New Bureau In Environmental Health

Secretary Flemming has asked Congress for legislation permitting the U. S. Public Health Service to set up a Bureau of Environmental Health. It would be on a par with the Bureau of Medical Services, Bureau of State Services and National Institutes of Health. Elevation of environmental health activities is in compliance with recommendations of expert consultants (WRMS No. 666).

#### Pension Plans

The Senate Finance Committee held more meetings (with another meeting scheduled) on the Keogh



bill (HR 10) and Treasury modifications thereto but reached no decision. The Senate passage is not unlikely, but then it would be necessary for the House to concur in a rewritten bill that is quite different from the one it passed last summer.

### **"Doctor-Casting" Approved**

The Federal Communications Commission amended broadcast rules, effective May 16, to permit FM broadcasters to transmit programs of specialized interest to trade, professional, religious or other groups. "This type of service," said FCC's statement, "is typified by the 'doctor-casting' authorization recently issued to Radio Station WRCA-FM, New York City."

### **Big Growth in Medical Care of Needy Shown**

A new Health Insurance Institute study, based on figures supplied by the Social Security Administration, reveals that medical payments for the indigent under four Federal-state aid programs have risen more than 100 per cent in a 5-year period. In 1953, medical care vendor payments for the aged, dependent children, the blind and persons receiving disability payments totaled \$106 million; in 1958 it came to \$265 million. Total payments for all four programs in 1958 — food, clothing and housing, as well as medical aid — were \$2.9 billion, of which the Federal government contributed 60 per cent.

#### **CURRENT YEAR FAR AHEAD**

Medical payments for March, 1960 indicate that an annual total well in excess of \$400 million is in prospect. In that month payments were \$24,769,124 for persons on old age assistance; \$5,023,068 for dependent children; \$680,278 for the blind, and \$4,112,308 for the permanently and totally disabled. The aggregate, about \$35 million is at an annual rate of \$420 million.

### **Medical Price Index Up Again; Breakdown Given**

In the consumer price index for April, announced by the Bureau of Labor Statistics, "medical care" went up 0.3 per cent in comparison with the March figure. The index was 155.5, or 55.5 per cent higher than the 1947-49 average. This marked a new high for medical care but the distinction is a minor one since the index for this category has become successively higher month by month for a good many years.

### **Folic Acid in Vitamin Pills Can Hide Signs of Anemia**

Multivitamin pills containing folic acid can hinder the diagnosis of pernicious anemia, according to an article in the (May 21) *Journal of the American Medical Association*.

Dr. A. B. Curry Ellison, Charleston, W. Va., described two cases in which a diagnosis of pernicious anemia was obscured because the patients had taken vitamin preparations containing folic acid.

One patient had been taken two or three vitamin capsules, containing 1 milligram of folic acid each, and another preparation, containing 1.7 milligram, twice a day. The other patient had been taking one or more capsules per day each containing .33 of a milligram of folic acid.

Dr. Ellison said six other such cases had been reported previously and added that there are undoubtedly many that have gone unrecognized or unreported.

"It is my opinion, as well as that of many astute physicians, that folic acid should be removed from all multivitamin and iron preparations," he said. "Folic acid should be dispensed in individual tablets and used for those few specific conditions in which it is indicated."

Dr. Ellison said the daily requirement of folic acid for the human being has not been determined, and that folic acid was added to some vitamin preparations "without adequate therapeutic evidence of need."

(Folic acid is one of the vitamins of the B complex group. Folic acid is needed for normal function of the intestines and in the formation of red blood cells. It is found in green vegetables, and the body is also able to manufacture it.)

### **Law is Sought to Spare U. S. Some Medical Bills**

U. S. Comptroller General Joseph Campbell is asking Congress to pass a law enabling the government to recover millions it spends annually for medical and hospital care in negligent third-party cases. Immediately on receiving the Campbell report last week, Senator Harry F. Byrd (D., Va.) said he will sponsor and press for enactment of remedial legislation. Senator Byrd is chairman of the Joint Committee on Reduction of Non-essential Federal Expenditures.

#### **MILITARY CASES NUMEROUS**

The problem is one that affects military personnel in the main. It is estimated that Uncle Sam is spending \$10.5 million annually to hospitalize and care for soldiers and sailors injured in private car mishaps. The Department of Defense has no legal authority to attempt to recover any of this cost either from a negligent third party or from proceeds paid by the latter to the injury victim. The same is true for the Public Health Service, which cares for injured merchant seamen and Coast Guardsmen.

The Federal Employees' Compensation Act enables the U. S. to recover certain costs of medical and hospital care rendered to civilian Federal workers. To a limited degree, the Veterans Administration has been getting some reimbursement in comparable

*Continued on page 228*

# Program . . .

107th Annual Session  
Maine Medical Association

JUNE 19, 20, 21, 1960

The Samoset, Rockland

## Scientific Committee

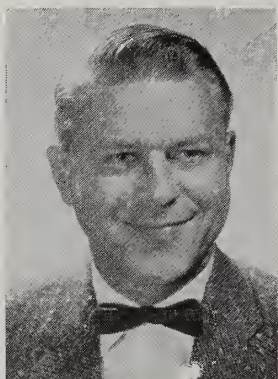
Daniel R. Shields, M.D., Lewiston, Chairman  
John A. Woodcock, M.D., Bangor  
Sidney R. Branson, M.D., South Windham





## Program

Arranged by the Scientific Committee



Dr. Shields, Chairman

## Information

### Registration:

Registration Headquarters throughout the session will be in the Lobby at The Samoset.

Sunday June 19 — 9:00 A.M. to 5:30 P.M.  
 Monday June 20 — 8:30 A.M. to 5:30 P.M.  
 Tuesday June 21 — 8:30 A.M. to 5:30 P.M.

### Visiting Delegates:

Introduction of Visiting Delegates will take place at meetings of the House of Delegates on Sunday, June 19 or at the General Assembly, Monday afternoon, June 20.

### Scientific and Educational Exhibits:

These exhibits, which are listed elsewhere in this program, will be located in the Ballroom.

### Technical Exhibits:

The technical exhibits are a part of the educational program of this convention. They are easily accessible to the Ballroom (where Scientific Sessions will be held), to the Dining Room and to the Golf Course. Show your appreciation to the exhibiting companies by visiting the exhibits at the conclusion of each meeting. A list of these companies will be found in this program.

### Door Prize:

A door prize will be presented at the Clam Bake on Tuesday, June 21. Don't fail to get your ticket at the Association's Registration desk. The winner must be present at the Clam Bake to receive the prize.

## Sunday, June 19

10:00 A.M. First meeting of the House of Delegates  
**Wilson H. McWethy, M.D.**, President-elect, presiding  
 Parliamentarian, **Linus J. Stitham, M.D.**

12:30 P.M. Luncheon

3:00 P.M. Second Meeting of the House of Delegates  
**Dr. McWethy**, presiding.

6:30 P.M. Dinner

Speaker: **Dr. John H. Furbay**, Forest Hills, New York. Sponsored by General Motors Corporation.

Subject: *Wings Over The World*



Dr. Furbay

## Monday, June 20

### Scientific Program

Sponsored by **Maine Cancer Society**  
 Presiding — **DANIEL R. SHIELDS, M.D.**

10:00 A.M. *Changing Concepts in the Management of Cancer*  
**Danely P. Slaughter, M.D.**, Professor of Surgery, University of Illinois

11:00 A.M. *Carcinoma of the Prostate*  
**Perry B. Hudson, M.D.**, Columbia University College of Physicians and Surgeons

12:30 P.M. Luncheon

### Scientific Session

Sponsored by the Maine Chapter of the  
American College of Surgeons  
Presiding — SIDNEY R. BRANSON, M.D.

2:00 P.M. *Surgical Aspects of Cerebral Vascular  
Accidents*  
**James L. Poppen, M.D.**, Neurosurgeon, The  
Lahey Clinic  
*Treatment of the Thyroid Nodule*

Panel Discussion — Moderator — **Isaac M.  
Webber, M.D.**, Portland  
Panelists: **Stanley E. Herrick, Jr., M.D.**  
Portland; **Edward K. Morse, M.D.**, Rock-  
land; **John F. Reynolds, M.D.**, Waterville;  
**George J. Robertson, M.D.**, Waterville



Dr. Slaughter



Dr. Poppen



Dr. MacGuire



Edward J. Thoms

4:00 P.M. General Assembly  
Presiding, **ALLAN WOODCOCK, M.D.**, president  
Election of President-elect

6:00 P.M. Cocktail Party — Sponsored by Bruns-  
wick Publishing Company, Brunswick, Maine

6:30 P.M. Annual Banquet  
Presentation of Honorary Pins  
Speaker: The Honorable **Edmund S. Mus-  
kie**

**Tuesday, June 21**

9:30 A.M. — **Film** — *Radiation: Physician and  
Patient*

### Scientific Session

Presiding — **JOHN A. WOODCOCK, M.D.**

10:00 A.M. *Space Medicine is Coming Down to  
Earth*  
**Hugh C. MacGuire, M.D.**, Atomedic Re-  
search Center, Montgomery, Alabama

11:00 A.M. *Progressive Hospital Care*  
**Edward J. Thoms**, Administrator, The  
Manchester Memorial Hospital, Manches-  
ter, Connecticut

12:30 P.M. Luncheon

### Scientific Session

Sponsored by the Maine Medico-Legal Society

2:00 P.M. *The Physician and the Law*  
**Walter M. Tapley, Jr.**, Associate Justice,  
Supreme Judicial Court of Maine

3:00 P.M. *The Determination of the Manner of  
Death* (as contrasted with Cause of Death)  
**Michael A. Luongo, M.D.**, Department of  
Legal Medicine, Harvard Medical School,  
Medical Examiner, Northern Division, Suf-  
folk County, Massachusetts

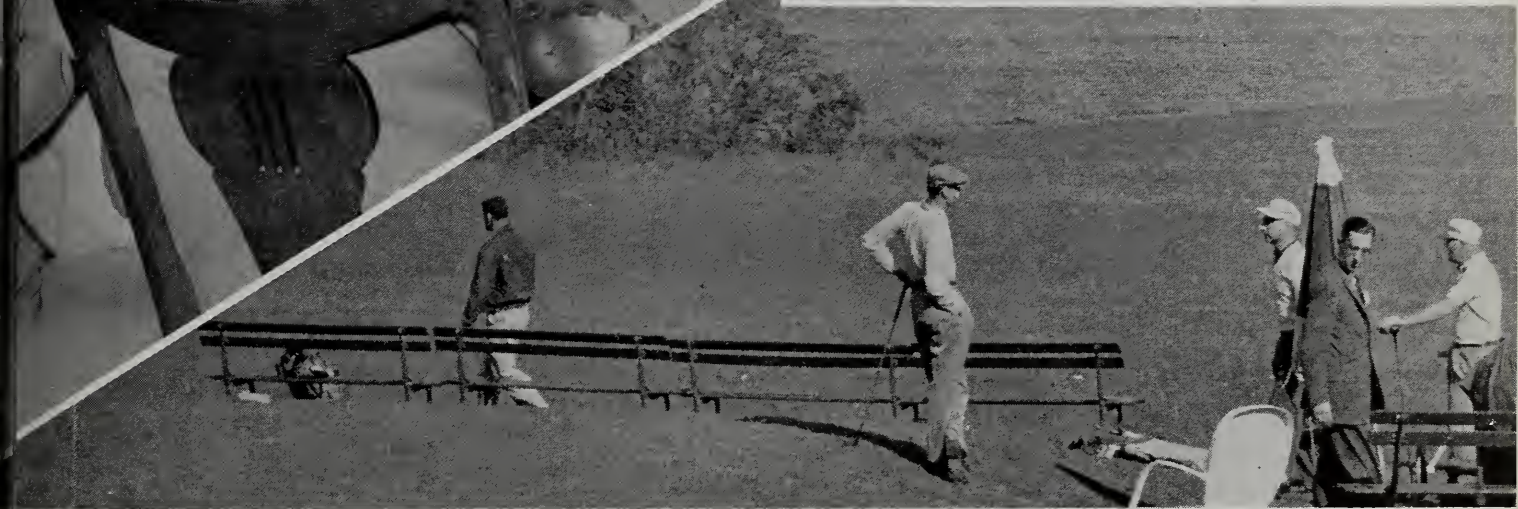
6:30 P.M. Clam Bake  
Presentation of Golf Prizes and Door Prize

*Continued on page 218*









Proof that you CAN relax scientifically!





## Specialty Group Meetings

Monday, June 20

10:00 A.M. Maine Medico-Legal Society Annual

Business Meeting

Movie: The Medical Witness

2:00 TO 4:00 P.M.

Maine Society of Anesthesiologists

WARREN G. STROUT, M.D., Bangor, presiding

Speakers: WALDO A. CLAPP, M.D., Lewiston and  
GEORGE E. SULLIVAN, M.D., Fairfield

Subject: C-P-C

M.M.A. Eye Section

OTIS B. TIBBETS, M.D., Auburn, presiding

Speaker: HAROLD BROWN, M.D., New York City  
Subject: *Diagnosis of Ocular Muscle Abnormalities*

Discussion of Prevention of Blindness conducted  
by National Association

Business Meeting

Pediatric Group (this meeting open to all interested  
in Pediatrics)

ALICE A. S. WHITTIER, M.D., Portland, Secretary

Maine Society of Clinical Hypnosis

Speaker: ETHAN ALLAN BROWN, M.D.  
Boston, Massachusetts

Subject: *The Use of Hypnosis in the Restoration  
of Normal Physiological Respiratory Rhythm  
in Asthmatic Patients*



Dr. Ethan Allan Brown

Tuesday, June 21

2:00 P.M.

Maine Radiological Society

JOHN F. GIBBONS, M.D., Portland, presiding

Maine Trauma Group

ALBERT P. ROYAL, JR., M.D., Rumford, presiding

Panel Discussion of *Fractured Tibias*

Panelists: HARRY BRINKMAN, M.D., Farmington; LAWRENCE CRANE, M.D., Portland; CARL W. RUHLIN, M.D., Bangor; EDWARD G. ASHERMAN, M.D., Portland; JOHN A. WOODCOCK, M.D., Bangor

2:30 P.M.

Maine Society of Obstetrics and Gynecology

WILLIAM M. SHUBERT, M.D., Bangor, presiding

Speaker: ALLAN F. GUTTMACHER, M.D.,  
Professor of Obstetrics and Gynecology,  
Mount Sinai Hospital, New York

Subject: *Management of Dystosia in Labor*

4:00 P.M.

Maine Society of Internal Medicine

WILBUR B. MANTER, M.D., Bangor, presiding

## Visiting Delegates

Connecticut State Medical Society

JACK GURWITZ, M.D., Hartford

SIDNEY LURIA, M.D., Bridgeport

Massachusetts Medical Society

HARRY BLOTNER, M.D., Boston

JOHN R. SHAUGHNESSY, M.D., Salem

New Hampshire Medical Society

LESTER R. WHITAKER, M.D., Portsmouth

Rhode Island Medical Society

HANNIBAL HAMLIN, M.D., Providence

STANLEY D. SIMON, M.D., Providence

## Out-of-State Guests

CARL BEARSE, M.D., President-elect, Council of  
New England State Medical Societies

JEAN A. CURRAN, M.D., Consultant to the Bingham Trust for Charities, Boston

MR. PAUL R. M. DONELAN, Assistant to the  
Director, American Medical Association,  
Washington Office

HENRY L. FINEBERG, M.D., President  
Medical Society of the State of New York

MR. CHARLES JOHNSON, Field Representative,  
Division of Field Service, American Medical  
Association

MR. GETTY PAGE, Executive Secretary, Vermont  
State Medical Society

MR. HAMILTON S. PUTNAM, Executive Secretary,  
New Hampshire Medical Society

MR. EVERETT R. SPENCER, JR., Director, Public  
Relations and Administration, Massachusetts  
Medical Society

**Program for the Ladies**

A social program, being arranged by members of the Woman's Auxiliary to the Knox County Medical Society, will include —

Monday, June 20, 10:00 A.M. Coffee and Art Exhibit

Tuesday, June 21, 10:00 A.M. Coffee and Sculptor Exhibit

Tuesday, June 21, 1:00 P.M. Fashion Show following luncheon

Room for coffee and exhibits to be announced

**HONORARY PINS**

Presentation of the Association's Honorary Pins will be made by Allan Woodcock, M.D., President, at the Annual Banquet, Monday evening, June 20 at 6:30 P.M.

**FIFTY-YEAR PINS**

Fifty-Year Lapel Pins will be presented to the following members who were graduated from Medical School in 1910:

**Androscoggin County**

William J. Fahey, M.D., Lewiston

**Cumberland County**

Hans V. Mautner, M.D., Yarmouth

**Hancock County**

George Parcher, M.D., Ellsworth

**Kennebec County**

Samuel H. Kagan, M.D., Augusta

**Penobscot County**

Thomas A. Devan, M.D., Corona, Long Island, N. Y.

**Somerset County**

Ernest D. Humphreys, M.D., Pittsfield

**FIFTY-FIVE-YEAR PINS**

Fifty-Five-Year Pins will be presented to the following members who received Fifty-Year Medals in 1955:

**Androscoggin County**

Daniel F. D. Russell, M.D., Leeds

**Cumberland County**

Nathaniel B. T. Barker, M.D., Yarmouth

**Lincoln-Sagadahoc County**

Deforest S. Day, M.D., Wiscasset

**Piscataquis County**

Fred J. Pritham, M.D., Greenville Junction

**SIXTY-YEAR PINS**

Sixty-Year Pins will be presented to the following members who received their Fifty-Year Medals in 1950:

**Aroostook County**

Eugene H. Doble, M.D., Presque Isle

**Penobscot County**

Luther S. Mason, M.D., Bangor

**York County**

Owen B. Head, M.D., Sanford

**SIXTY-FIVE-YEAR PIN**

A Sixty-Five-Year Pin will be presented to the following member who received his Fifty-Year Medal in 1945:

**Androscoggin County**

Wallace E. Webber, M.D., Lewiston

**Scientific and Educational Exhibits****Model Atomedic Hospital**

From Atomedic Research Center, Montgomery, Alabama

**Maine Radiological Society**

"Teaching Aids in Roentgenology"

Clark F. Miller, M.D., Central Maine General Hospital, Lewiston, presiding

**Exhibit of Diseases of the Prostate Gland**

This exhibit is being shown through the courtesy of its originator, Archie Dean, Jr., M.D., of Columbia University College of Physicians and Surgeons.

**Maine Chapter, American Academy of General Practice****Maine Trauma Committee, American College of Surgeons****Maine Society of Anesthesiology****Maine Chapter, Academy of Pediatrics****Maine Cancer Society****State of Maine Department of Rehabilitation****State of Maine Services for the Blind****Maine Heart Association****Associated Hospital Service of Maine****Tobacco Industry Research Committee**



## Technical Exhibits

### Abbott Laboratories, North Chicago, Illinois

Representatives: Mr. Donald K. Eastman, Mr. Philip F. Woodlock, Mr. John L. Keliher

### The Alkalol Company, Taunton, Mass.

Representative: Mr. E. W. LeClair

### Ames Company, Inc., Elkhart, Indiana

Representatives: Mr. Donald S. Dewsnap, Mr. Charles M. McLaughlin

### Ayerst Laboratories, 245 Paterson Ave., Little Falls, New Jersey

Representative: Mr. Edward C. McMahon

### The Baker Laboratories, Inc., 4614 Prospect Ave., Cleveland 3, Ohio

Representative: Mr. Charles Butts

### Elmer N. Blackwell, Surgical Appliance Specialist, 207 Strand Bldg., Portland, Maine

Representatives: Mr. Elmer N. Blackwell, Mr. Oakley R. Sanborn

### The Borden Company, 350 Madison Ave., New York 17, N. Y.

Representatives: Mr. Joseph R. Galvin, Mr. John Ago

### Brewer & Company Inc., 67 Union St., Worcester 8, Mass.

Representatives: Mr. Walter Spaulding, Mr. Sidney L. Segel

### Buffington's Inc., Worcester 8, Mass.

Representative: Mr. C. W. Rich

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Representatives: Mr. Lester C. Gee, Mr. William C. Murley

### Carnation Company, Carnation Bldg., Los Angeles 36, California

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### Ciba Pharmaceutical Products Inc., Summit, New Jersey

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### Geigy Pharmaceuticals, P. O. Box 430, Yonkers, New York

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### The S. E. Massengill Company, Inc., 717 Fifth Ave., New York 22, N. Y.

Representatives: Mr. L. C. Miller, Mr. L. A. Larivee

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### J. B. Roerig and Company, 536 Lake Shore Drive, Chicago, Illinois

Representatives: Mr. Clarence J. Johnson, Mr. John Hunt

### William H. Rorer, Inc., 4865 Stenton Ave., Philadelphia 44, Pa.

Representatives: Mr. Edward T. Croke, Jr., Mr. Jefferson M. Beward

### Ross Laboratories, Columbus 16, Ohio

Representatives: Mr. Harold Hutchinson, Jr., Mr. Richard Kaufman

### Sandoz Pharmaceuticals, Hanover, New Jersey

Representative: Mr. Thomas W. Coffey

### W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa.

Representative: Mr. Joseph Juneman

### Schering Corporation, Bloomfield, New Jersey

Representatives: Mr. Jack Arlaud, Mr. Floyd Selby

### Schieffelin & Co., 30 Cooper Square, New York 3, N. Y.

Representative: Mr. H. Wayne Tichenor

### G. D. Searle & Company, P. O. Box 5110, Chicago 80, Illinois

Representatives: Mr. J. H. Muncaster, Mr. A. L. Grimes

### Smith Kline & French Laboratories, 1500 Spring Garden St., Philadelphia 1, Pa.

Representative: Mr. C. P. McEachern

**Smith, Miller & Patch, Inc., 902 Broadway, New York 10, N. Y.**  
Representatives: Mr. Kenneth J. Mullen, Mr. Paul L. Woodward

**E. R. Squibb & Sons, 745 Fifth Ave., New York 22, N. Y.**  
Representative: Mr. Carl Richardson

**Surgeons' and Physicians' Supply Co., 961 Commonwealth Ave., Boston 15, Mass.**  
Representative: Mr. Charles H. Joy

**The Upjohn Company, 17 Deerfield St., Boston 15, Mass.**  
Representatives: Mr. Raymond A. Clemons, Mr. William J. Kayatta, Mr. Paul G. Hudson, Mr. Robert D. Beverly

**U. S. Vitamin & Pharmaceutical Corp., 250 East 43rd St., New York 17, N. Y.**  
Representatives: Mr. William G. Moran, Jr., Mr. John R. Winfield

**Warner-Chilcott Laboratories, Morris Plains, New Jersey**  
Representatives: Mr. William Comyns, Mr. Joseph B. Fallon

**The Warren-Teed Products Company, 582 West Goodale St., Columbus 15, Ohio**  
Representatives: Mr. Charles F. Vaughan, Mr. Robert W. Roffler

**Winthrop Laboratories, 1450 Broadway, New York 18, N. Y.**  
Representative: Mr. E. F. Kittridge

County Delegates

FIRST DISTRICT

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*Delegates* — Albert Aranson, M.D., 39 Deering St., Portland — Secretary  
(2 years)  
Robinson L. Bidwell, M.D., 31 Bramhall St., Portland  
Charles R. Glassmire, M.D., 58 Deering St., Portland  
Robert H. Pawle, M.D., Steep Falls  
David K. Lovely, M.D., 46 Deering St., Portland  
(1 year)  
David S. Wyman, M.D., 47 Deering St., Portland  
Laban W. Leiter, M.D., 175 Vaughan St., Portland  
Richard B. Stephenson, M.D., 131 State St., Portland  
Stanley B. Sylvester, M.D., 1377 Washington Ave., Portland  
*Alternates*  
(2 years)  
Louis Bachrach, M.D., 16 Union St., Brunswick  
George F. Sager, M.D., 18 Bramhall St., Portland  
John F. Gibbons, M.D., 22 Bramhall St., Portland  
Arthur R. Clemett, M.D., 131 State St., Portland  
(1 year)  
George I. Geer, Jr., M.D., 690 Congress St., Portland  
Donald P. Cole, M.D., 31 Deering St., Portland  
Norman E. Dyhrberg, M.D., 323 Main St., Cumberland Mills  
Sidney R. Branson, M.D., 37 Main St., South Windham

**York County Medical Society**  
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J. Robert Downing, M.D., 35 Summer St., Kennebunk  
Roger J. P. Robert, M.D., 331 Main St., Saco  
William E. Dionne, M.D., 75 Main St., Springvale  
*Alternates*  
Kenneth E. Leigh, M.D., Brixham Rd., York  
Robert F. Ficker, M.D., Maine St., Kennebunkport  
James S. Johnston, M.D., York Harbor

SECOND DISTRICT

**Androscoggin County Medical Association**  
*Delegates* — Donald L. Anderson, M.D., 369 Main St., Lewiston — Secretary  
Paul J. B. Fortier, M.D., 70 Pine St., Lewiston  
Ross W. Green, M.D., 33 Court St., Auburn  
Paul J. LaFlamme, M.D., 106 Russell St., Lewiston  
*Alternates*  
Joelle C. Hiebert, Jr., M.D., 369 Main St., Lewiston  
Ralph A. Zanca, M.D., 86 Pine St., Lewiston  
Wirt L. Davis, M.D., 91 Bartlett St., Lewiston

**Franklin County Medical Society**  
*Delegates* — Philip B. Chase, M.D., 36 Main St., Farmington — Secretary  
Paul A. Fichtner, M.D., 6 Pleasant St., Rangeley  
*Alternate*  
Wallace H. Duffy, M.D., 100 Main St., Farmington

**Oxford County Medical Society**  
*Delegates* — Albert P. Royal, Jr., M.D., 82 Maine Ave., Rumford — Secretary  
Harry L. Harper, M.D., 17 Main St., South Paris  
Norman M. Jackson, M.D., 89 Congress St., Rumford  
*Alternates*  
Alfred Oestrich, M.D., 89 Congress St., Rumford  
Albert J. Grish, M.D., 18 Hartford St., Rumford

THIRD DISTRICT

**Knox County Medical Society**  
*Delegates* — John A. Root, M.D., 22 White St., Rockland — Secretary  
Hugo Hochschild, M.D., 33 Main St., Thomaston  
Merrill J. King, Jr., M.D., 22 White St., Rockland  
*Alternate*  
Johan Brouwer, M.D., 56 Talbot Ave., Rockland

**Lincoln-Sagadahoc County Medical Society**  
*Delegates* — Richard I. Clark, M.D., 858 Washington St., Bath — Secretary  
John F. Andrews, M.D., 20 West St., Boothbay Harbor  
Ralph C. Powell, M.D., Damariscotta  
*Alternates*  
Edward L. Kinder, Jr., M.D., 1027 Washington St., Bath  
Deane L. Hutchins, M.D., 69 Townsend Ave., Boothbay Harbor

FOURTH DISTRICT

**Kennebec County Medical Association**  
*Delegates* — Arch H. Morrell, M.D., 67 Sewall St., Augusta — Secretary  
Hugh J. Mathews, Jr., M.D., 345 Water St., Gardiner  
Richard L. Chasse, M.D., 173 Main St., Waterville  
Vaughn R. Sturtevant, M.D., 33 College Ave., Waterville  
Lorrimer M. Schmidt, M.D., Veterans Administration Center, Togus  
Allan J. Stinchfield, M.D., 16 E. Chestnut St., Augusta  
*Alternates*  
Anthony E. Lepore, M.D., 72 Church St., Gardiner  
Francis J. O'Connor, M.D., 4 Woodlawn St., Augusta  
Paul H. Pfeiffer, M.D., 14 Gilman St., Waterville  
*Continued on page 228*





DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine  
Department of Health and Welfare

Paralytic Poliomyelitis Case Rates  
By Vaccine Status  
Aroostook County, Maine, 1959

EDSON K. LABRACK, M.P.H.\*

When an outbreak of paralytic poliomyelitis occurred in Aroostook County, Maine, in 1959 it seemed desirable to attempt a special analysis to determine what effect inoculations with Salk poliomyelitis vaccine had had on the course of the outbreak.

The Department of Health and Welfare conducted a sample survey in Aroostook County to gather data concerning the extent to which residents of the County had been inoculated with Salk vaccine. This study was described and the findings were presented in an earlier paper.<sup>1</sup>

Data obtained in this survey made it possible to estimate poliomyelitis case rates by immunization status during the 1959 paralytic poliomyelitis outbreak in that County and to test certain hypotheses concerning the effect of this Salk vaccine in reducing the risk of contracting paralytic poliomyelitis. Case rates, or morbidity rates, were estimated from morbidity data obtained through the regular morbidity reporting channels of the Department and from estimates of the numbers of persons in the County by vaccine status survey.

MORBIDITY DATA

Since Salk vaccine is presumed to be effective only in reducing the risk of paralytic disease, morbidity data used in the estimation of case rates were limited by removing from consideration any cases with a clinical diagnosis of poliomyelitis, but in which there was no residual paralysis apparent six months or more after the onset of the disease. The age group under 40 years of age was selected for analysis. This resulted in the

elimination of one paralytic case who had received four inoculations with vaccine. Statistical tests indicate that the elimination of this case had no significant effect on study findings. It was necessary to eliminate one other paralytic case since inoculation data concerning that individual was lacking. Laboratory confirmation of diagnoses would add to the precision of case rates. However, results of laboratory tests were not available at the time of analysis. Table 1 shows morbidity data used in the computation of case rates.

TABLE 1  
PARALYTIC POLIOMYELITIS CASES BY AGE AND BY  
VACCINE STATUS  
AROOSTOOK COUNTY, MAINE, 1959

	Number of inoculations with vaccine						
	Total	None	1	2	3 before 1958	3 in 1958 or 1959 <sup>1</sup>	4
Total .....	49	28	5	5	7	2	2
Under 1 .....	1	—	1	—	—	—	—
1- 4 .....	10	7	—	2	1	—	—
5- 9 .....	13	7	3	1	2	—	—
10-14 .....	8	2	—	1	3	1	1
15-19 .....	4	1	—	1	1	1	—
20-24 .....	2	2	—	—	—	—	—
25-29 .....	5	4	1	—	—	—	—
30-34 .....	4	4	—	—	—	—	—
35-39 .....	1	1	—	—	—	—	—
40 and over ....	1	—	—	—	—	—	1

1 Prior to August 1, 1959.

PARALYTIC POLIOMYELITIS CASE RATES

Paralytic poliomyelitis case rates by vaccine status in Aroostook County show differences which are substantially greater than one would expect to result from chance. Three distinct relationships are apparent: (1)

1 Labrack, E.: Poliomyelitis immunization status in Aroostook County, Maine, 1959, J. Maine Med. A. 51: 169, May, 1960.

\*Director, Division of Vital Statistics.

The case rate appears to be related to the number of inoculations with vaccine. (2) The case rate appears to be related to the time elapsed since the last inoculation. (3) The case rate appears to be related to age.

Tables 2 and 3 show the detail of case rate data for persons under 20 and for persons under 40 years of age.

TABLE 2  
ESTIMATED POPULATION, PARALYTIC POLIOMYELITIS CASES, PARALYTIC POLIOMYELITIS CASE RATES BY VACCINE STATUS PERSONS UNDER 20 YEARS OF AGE AROOSTOOK COUNTY, MAINE, 1959

Vaccine Status	Estimated Population	Paralytic Poliomyelitis Cases	Case rate per 10,000 Population
No vaccine .....	8,130	17	20.9
1 inoculation .....	2,020	4	19.8
2 inoculations .....	6,080	5	8.2
3 before 1958 .....	7,170	7	9.8
3 in 1958 or 1959 ....	19,260	2	1.0
4 inoculations .....	4,130	1	2.4

TABLE 3  
ESTIMATED POPULATION, PARALYTIC POLIOMYELITIS CASES, PARALYTIC POLIOMYELITIS CASE RATES BY VACCINE STATUS PERSONS UNDER 40 YEARS OF AGE AROOSTOOK COUNTY, MAINE, 1959

Vaccine Status	Estimated Population	Paralytic Poliomyelitis Cases	Case rate per 10,000 Population
No vaccine .....	18,760	28	14.9
1 inoculation .....	4,000	5	12.5
2 inoculations .....	8,650	5	5.8
3 before 1958 .....	9,170	7	7.6
3 in 1958 or 1959 ....	25,130	2	0.8
4 inoculations .....	5,190	1	2.0

There appear to be three distinct levels in the case rates. (1) The case rate for persons who had received one inoculation with vaccine is not significantly different from the case rate for persons who had received no vaccine. This would seem to indicate that one inoculation gives the recipient no significant protection. (2) The case rate for persons who had received a series of two inoculations is significantly lower than the case rate for persons who had received no vaccine or only one inoculation. This would seem to indicate that the second inoculation gives the recipient some protection.

(3) The case rate for persons who had received a

series of three inoculations completed in 1958 or during the first seven months of 1959 was significantly lower than the case rate for persons who had received two inoculations. This would seem to indicate that a third inoculation gives significantly improved protection.

(4) The case rate for persons who had received a series of four inoculations was not significantly different from the case rate for persons who had received a third inoculation with vaccine during 1958 or during the first seven months of 1959. This would seem to indicate that the third inoculation confers optimal immunity.

(5) The case rate for persons who had received a third inoculation with vaccine in 1958 or during the first seven months of 1959 was significantly lower than the case rate for persons who had received a third inoculation before 1958. This would seem to indicate that the immunity conferred by a course of three inoculations wanes significantly after about a year and that a booster inoculation is necessary to restore immunity to an optimal level. The number of cases among persons with three inoculations with vaccine during 1958 and 1959 was small and it was not possible to determine from study data the point at which the immunity gained through a series of three inoculations had waned to a significant degree. However, the fact that the case rate was significantly higher among persons who had received a series of three inoculations completed prior to 1958 seems to indicate that immunity has waned significantly by the end of the second year after the completion of the series.

(6) The case rate for all persons under 20 years of age whose immunization level was less than optimal was approximately twice as great as the case rate in the comparable population of persons 20-39 years of age.

SUMMARY AND CONCLUSION

A study of case rates during an outbreak of paralytic poliomyelitis in Aroostook County, Maine, in 1959 confirms the effectiveness of Salk vaccine in reducing the risk of paralytic poliomyelitis. Significant findings of the study indicate that it is probably safe to conclude that persons who have received 2 inoculations from Salk vaccine have some degree of protection against poliomyelitis and that the degree of protection is increased by a third inoculation. The immunity gained by a course of 3 inoculations with Salk vaccine appears to wane after a period of time and booster inoculations are needed to restore immunity to an optimal level.



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## County Society Notes

## HANCOCK

May 11, 1960

A meeting of the Hancock County Medical Society was held on May 11, 1960 at the Hancock House in Ellsworth, Maine. Those members present were: Drs. Llewellyn W. Cooper, Charles H. Knickerbocker, W. Edward Thegen, Arthur M. Joost, Jr., Elizabeth E. Williamson, Walter W. Herbert, James H. Crowe, Thomas W. Williams, Russell M. Lane and Russell G. Williamson.

The meeting was opened by the President, Dr. Llewellyn W. Cooper. Dr. Cooper was elected Chairman of the Diabetes Detection Drive. The county society voted to support a fourth Polio Clinic if such a clinic is organized by the March of Dimes in this area. Our delegates to the Maine Medical Association were instructed to approve all proposals advanced at the April House of Delegates meeting except for the proposal, which we consider too vague, to establish a Medical Education Foundation.

Dr. Walter W. Herbert gave a fascinating talk on "Lung Cancer" illustrated with representative cases from the Hancock county hospitals.

RUSSELL G. WILLIAMSON, M.D.  
Secretary

## YORK

May 11, 1960

The monthly meeting of the York County Medical Society was held at the Wonder Bar Restaurant in Biddeford on Wednesday, May 11, 1960. There was a social hour from 12 noon to 1:00 p.m., dinner from 1:00 to 2:00 p.m., and a business meeting followed. The guest speaker was Mr. Ernest W. Chard, the managing editor of the Guy Gannett Publishing Company. His subject was "Medicine in the News." A lively question and answer period followed. Leopold A. Viger, M.D. served as host.

It was voted to have four meetings a year, one during each of the months of January, May, June and October. It was also voted to assess each member \$20.00 at the beginning of the year to carry on the year's program.

Kenneth E. Leigh, M.D., York, Vice-president of the society, presided over the meeting in the absence of Robert F. Ficker, M.D., Kennebunkport, President. Those members present were: Drs. James W. Sever, Marcel D. Ouellette, Leopold A. Viger, Oscar W. Perrault, Marion A. K. Moulton, Maurice Ross, Kenneth E. Leigh, Charles W. Kinghorn, Robert S. Lafond, Carl E. Richards, Louis C. Lesieur, Alvin A. Hoffman, Paul S. Hill, Jr., William F. Mahaney, Carl M. Haas, Marcel P. Houle, Melvin Bacon and William T. Roussin. Guests present were Mr. Ernest W. Chard and Mr. Herbert L. Berger.

The next meeting is tentatively planned for Wednesday, October 12, 1960 at the York Hospital, York Village, Maine.

CHARLES W. KINGHORN, M.D.  
Secretary

## New Members

## YORK

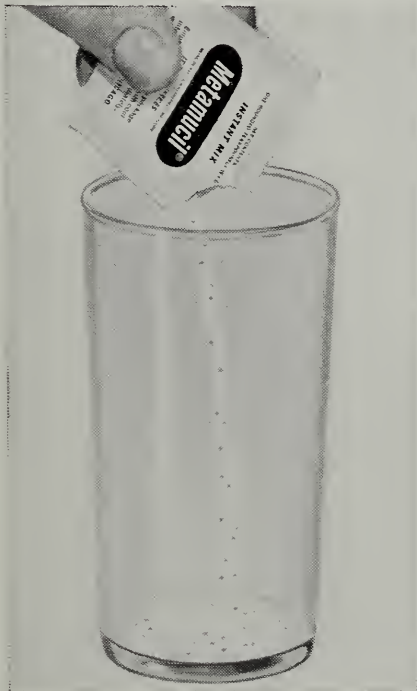
Oscar W. Perrault, M.D., 30 South Street, Biddeford

NEW FROM

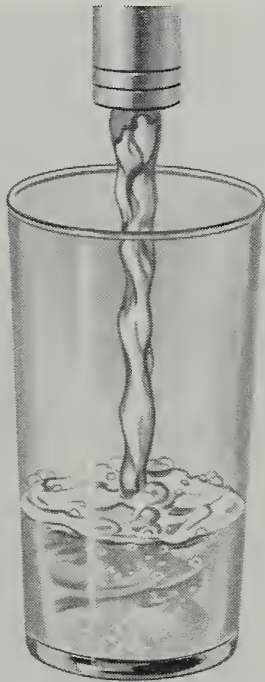
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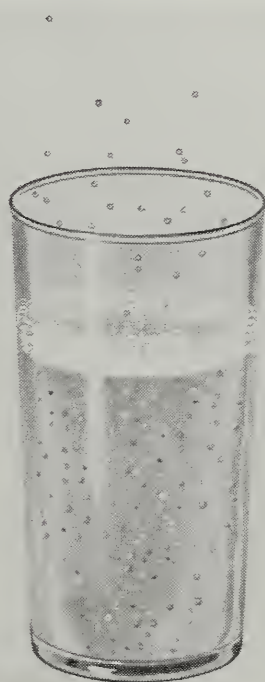
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## News and Notes

### York County Medical Society Awarded Certificate Of Merit

A certificate of Merit was awarded the York County Medical Society at the annual meeting of the Health Council of Maine held at the Augusta House, Augusta, Maine, Friday, May 13, 1960. This award was given for an outstanding contribution to the betterment of citizen and Community Health during the year 1959. This presentation was made by Mrs. Charles A. Mills, Chairman, Health Awards Committee, Health Council of Maine for this society's work in

the field of Diabetes. This society is well known for its efforts in the education of the public concerning Diabetes and its detection.

### Dr. Stephenson Elected To Society

Dr. Richard B. Stephenson was elected to Associate Membership of the James Ewing Society at their Annual Business Meeting on April 22, 1960.

## Announcements

### Department Of Health And Welfare Division Of Maternal And Child Health Including Services For Crippled Children

#### Orthopedic Clinics

Portland — Maine Medical Center  
9:00 a.m.: July 11, Aug. 8, Sept. 12  
Lewiston — Central Maine General Hospital  
9:00 a.m.: July 15, Aug. 19, Sept. 16  
Rumford — Community Hospital  
1:30 p.m.: Sept. 21  
Rockland — Knox County Hospital  
1:30 p.m.: Aug. 18  
Machias — Washington County Normal School  
1:30 p.m.: July 13  
Presque Isle — Northern Maine Sanatorium  
9:00 a.m. and 12:30 p.m.: July 13, Sept. 13  
Houlton — Aroostook General Hospital  
9:00 a.m.: July 12  
Fort Kent — Peoples Benevolent Hospital  
10:00 a.m.: Sept. 14  
Bangor — Eastern Maine General Hospital  
1:00 p.m.: July 28, Sept. 22  
(Several will be two-session clinics)  
Augusta — Augusta General Hospital  
1:00 p.m.: Aug. 25

#### Cardiac Clinics

Portland — Maine Medical Center  
9:00 a.m.: Every Friday (Holidays Excepted)  
Bangor — Eastern Maine General Hospital  
9:00 a.m.: July 8, 29, Aug. 12, 26, Sept. 9, 23

#### Cleft Palate Evaluation Clinics

Portland — Maine Medical Center  
10:00 a.m.: Aug. 9

#### Pediatric Clinics

Bangor — Eastern Maine General Hospital  
1:30 p.m.: July 29, Aug. 26, Sept. 23

Fort Kent — Peoples Benevolent Hospital  
10:00 a.m.: July 27  
Presque Isle — Northern Maine Sanatorium  
1:30 p.m.: Sept. 28  
Waterville — Thayer Hospital  
1:30 p.m.: July 5, Aug. 2, Sept. 6

#### Clinics For Mentally Retarded Pre-School Children

Waterville — Thayer Hospital  
9:00 a.m.: July 6, 20, Aug. 3, 17, 31, Sept. 7, 21

#### Adolescent Clinics

Portland — Maine Medical Center  
1:00 p.m.: July 27, Aug. 24, Sept. 28

### Roscoe B. Jackson Memorial Laboratory

The Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine, will discontinue its A-Z Pregnancy Testing Service on July 31, 1960.

### New Catalog Of Medical-Health Films Available

A revised list of films available from the A.M.A. Motion Picture Library has been prepared and copies are now available upon request. This new catalog lists 175 medical films suitable for showing to medical societies, hospital staff meetings, medical students and other scientific groups. In addition, there are 81 health films of interest to physicians who may be called upon to speak before lay audiences such as service organizations, Parent-Teacher Associations, etc.

The film catalog is completely new in design with such features as eye-ease typography, subject index, alphabetical listing of film titles, order blanks and a system of color coding

so that films for the laity and professional audiences may be quickly identified. Copies may be obtained without charge by addressing your request to the American Medical Association, Department of Medical Motion Pictures and Television, 535 North Dearborn Street, Chicago 10, Illinois.

Aid To Earthquake Victims

Medical associations and doctors of the world are urged to provide medical supplies and funds for relief of the earthquake victims in Chile. Contributions may be sent to Dr. Rolando Castanon, Colegio Medico de Chile, Miraflores No. 464, Santiago, Chile.

Twenty-Sixth New England Health Institute

The twenty-sixth New England Health Institute will take place this year, July 11 through 13, at the Equinox House, Manchester, Vermont. Chosen as the overall theme for the annual Institute is "A Look Ahead in Public Health — Problems and Prospects." The first general session will see a discussion of *Present and Future Community Health Problems* — a three-way discussion on new programs which health departments should be developing to meet changing community health needs. Dr. Edward W. Colby, State Health Officer for New Hampshire — formerly Director, Portland City Health Department, will serve as leader of the panel.

Further discussions will include *A Look Ahead: Public Health and Human Behaviour — Problems and Prospects; Review of Inter-Agency Relationships; An Evaluation of the Institute Itself.*

HYPERTELORISM IN ASSOCIATION WITH MALE CHROMATIN PATTERN  
IN A FEMALE — *Continued from page 199*

26. Levin, R. S., Elimov, F. F.: Vrozhdennyi seminyi cherepno-litsevoi dizost. (Congenranio-facial dysostosis). Vest. Renta. 34: 80-82, 1959.

27. MacGillivray, R. C.: Am. Jr. Ment. Def. 62: 288-291, 1957.

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ACROSS THE DESK — *Continued from page 212*

cases, but under a general provision of the law rather than specific authorization, which the Comptroller General and Senator Byrd are now recommending.

**Clinical Study on Hand-Schüller-Christian Disease**

The cooperation of physicians is requested in a study of eosinophilic xanthomatous granulomatosis, and most specifically Hand-Schüller-Christian disease, being conducted by the Radiation Branch of the National Cancer Institute in the Clinical Center of the National Institutes of Health, Bethesda, Maryland. This study has as its primary purpose a search for therapeutic methods which may favorably affect the course of the disease.

The study has three major components. The first is concerned with a histopathological evaluation of the course of the disease process during and following an appropriate therapeutic period; comparative studies devoted to the effect of prolonged and short term therapy on the course of the underlying granulomatous process will be undertaken; and, finally, an attempt will be made to evaluate some parameters in lipid and calcium metabolism during therapy.

Patients appropriate for this study are those with

a histopathological diagnosis consistent with some phase of eosinophilic xanthomatous granulomatosis who have active disease. It is preferable, of course, that such patients not be seriously ill, as this precludes long term studies of effects. In order to minimize the effects of prior treatment, those patients who have not received antifolic-acid, radiation or steroid therapy for at least one month prior to their evaluation shall be considered most appropriate for the program but previously treated patients will be considered for admission. Accepted patients will be studied for various periods of time and may be followed subsequently by either the referring physician or physicians at the Clinical Center. A comprehensive and individual program will be instituted for each patient and will include appropriate supportive and symptomatic care as well as the experimental therapy.

Physicians interested in the possibility of referring such patients should write or telephone:

Dr. Charles G. Zubrod, Clinical Director, National Cancer Institute, Bethesda 14, Maryland, (OLiver 6-4000, Ext. 4346); or Dr. J. Robert Andrews, Chief, Radiation Branch, National Cancer Institute, Bethesda 14, Maryland, (OLiver 6-4000, Ext. 3351).

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Earle M. Davis, M.D., 2 School St., Waterville

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James C. Bates, M.D., Eastport

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Perley J. Mundie, M.D., 32 North St., Calais

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Raymond G. Giberson, M.D., 555 Main St., Presque Isle

Arthur K. Carton, M.D., Market Square, Houlton

*Alternates*

Robert A. Graves, M.D., Sunset Drive, Orono

Thomas V. Brennan, M.D., 99 Hardy St., Presque Isle

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Edward L. Curran, M.D., 209 State St., Bangor

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Linus J. Stitham, M.D., 50 Main St., Dover-Foxcroft

*Alternate*

Francis W. Bradbury, M.D., 16 Main St., Dover-Foxcroft



# The Journal of the Maine Medical Association

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Number 7

## Use Of ACTH And Adrenocortical Steroids In Idiopathic Insulin-Resistant Diabetes

ERNEST O. FRIEDLANDER, M.D.\*

Failure of certain patients with diabetes to respond in the expected manner to the apparently physiologic substitution therapy with insulin has been observed under a number of conditions complicating the clinical picture of diabetes. Especially diabetic acidosis may cause transient insulin resistance and may raise the insulin requirement to extremely high levels. With the control of the acidotic state the status quo is usually established in a fairly short time.

In contrast to this clinical entity the term "idiopathic insulin-resistant diabetes" should be reserved for those patients who require 200 or more units of insulin daily for more than two days in the absence of acidosis and infection.<sup>1</sup> The incidence of idiopathic insulin resistance is rare and only approximately 65 cases have been reported in the literature. We have observed a patient with severe insulin resistance associated with insulin allergy over a period of six years. Certain aspects of this case pertaining to the use of Tolbutamide and insulin resistance per se have been published elsewhere.<sup>2,3</sup>

### CASE REPORT

A now 59-year-old, white man was first noted to have diabetes mellitus in May 1951 at the age of 50 years. He was given a diabetic diet of 1,800 calories and 20 units of NPH insulin daily. His insulin requirements could be gradually reduced, and by January 1952 he was well controlled by diet alone. He did well until De-

cember 1953 when his diabetes became worse. He was given 40 units of NPH insulin and 25 units of crystalline insulin daily. Despite a gradual increase of his daily insulin dose to 120 units, the blood sugar on his first admission to the hospital in March 1954 was 400 mg. per 100 ml. and he showed 4-plus glycosuria and 2-plus ketonuria. Physical examination was essentially within normal limits except for the presence of multiple, firm, non-tender, movable, subcutaneous nodules in the abdominal wall which the patient stated were the sites of previous insulin injections.

Laboratory data other than those pertaining to carbohydrate metabolism revealed no abnormalities. Urinary 17-ketosteroid excretion was normal. A roentgenogram of the chest was within normal limits. A biopsy specimen of the liver revealed no evidence of cirrhosis or hemochromatosis.

There was no evidence of any infection. Despite a gradual increase of the daily insulin dose to 400 units, glycosuria and ketonuria persisted and the patient lapsed into severe acidotic coma on the ninth hospital day. Only after 9,500 units of crystalline insulin had been given within the ensuing three days did the acidosis subside. For the next three weeks his daily insulin requirements ranged from 1,800 to 6,000 units of crystalline insulin. A mild upper respiratory infection and a small area of cellulitis observed during this time may have been partly responsible for the patient's enormous insulin needs. However, after all symptoms and signs of an infection had subsided, the daily insulin requirements still remained high.

\*From the Medical Service, Veterans Administration Center, Togus, Maine.



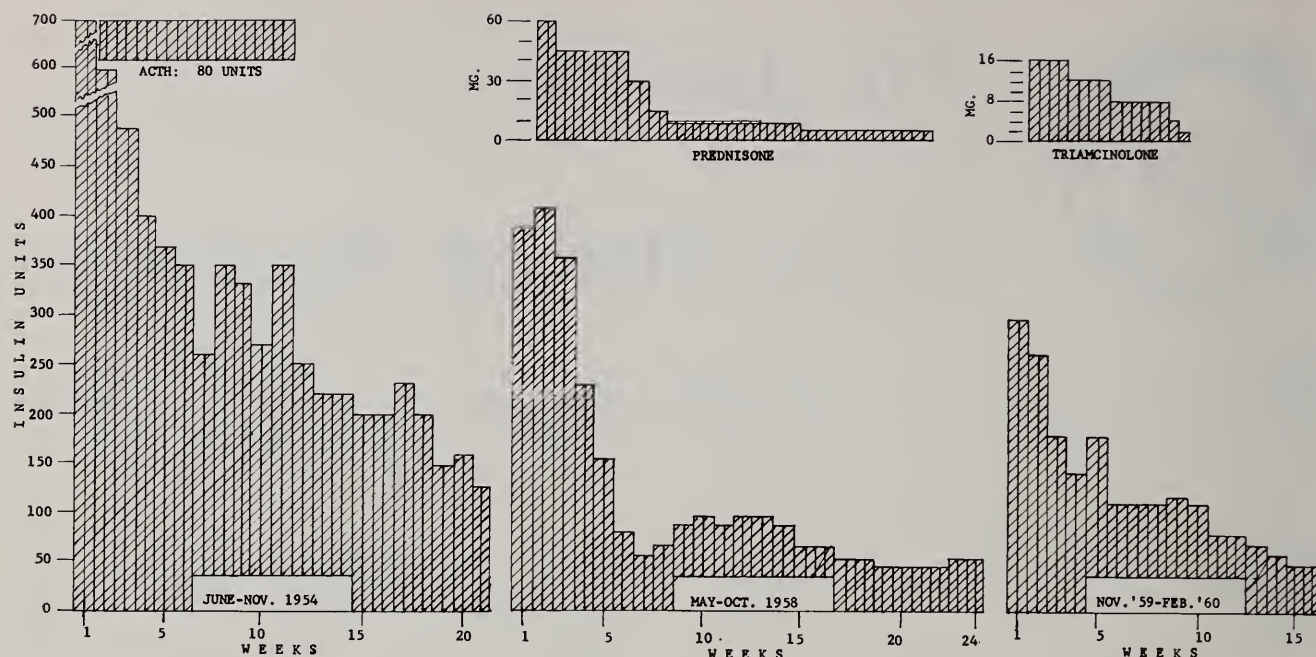


FIG. 1. Average daily insulin dose calculated on a weekly basis during three periods of hospitalization.

During the sixth and seventh weeks of hospitalization three doses of nitrogen mustard, 7 mg. each, were administered in an attempt to depress the formation of insulin antibodies. A marked drop in the daily insulin requirement was subsequently noted, followed by a resurgence about five weeks later.

During the sixteenth week of hospitalization administration of 80 units of ACTH gel daily was started and continued for ten weeks. During this time the daily insulin dose was reduced from 750 units to 250 units, and finally remained fairly stable at 125 units. (Fig. 1). Upon discharge from the hospital in January 1955 the patient was receiving a diabetic diet of 3,000 calories and 75 units of Lente insulin plus 50 units of crystalline insulin before breakfast.

In addition to his insulin resistance the patient showed signs and symptoms of insulin allergy, manifested by local reactions at the site of injection as well as generalized urticaria following intramuscular and intravenous injections of insulin. Intradermal injection of insulin and passive transfer tests confirmed the presence of insulin allergy.

During 1956 and 1957 the patient experienced two relapses of his insulin resistance, requiring from 900 units to 4,100 units of insulin a day. Each time an excellent remission was achieved by the use of Tolbutamide (Orinase®).<sup>2</sup>

However, in February 1958 insulin resistance recurred and did not respond to the previously effective administration of Tolbutamide. Treatment with 60 mg. of Prednisone® in divided doses was started on May 20, 1958, and was continued in gradually reduced dosage until October 7, 1958, for a total of four and a half months. During this time the daily insulin dose drop-

ped from 400 units to 60 units (see Fig. 1). Another relapse of insulin resistance occurred in August 1959 with insulin requirements of from 400 to 900 units daily. After the daily dose was stabilized at 300 units by exclusive intravenous administration of insulin, treatment with Triamcinolone was started on November 10, 1959. The initial daily dose of 16 mg. of Triamcinolone was gradually reduced to 4 mg. and finally Triamcinolone was discontinued on January 8, 1960, after a total of eight and a half weeks. Again a prompt reduction of the daily insulin requirements could be achieved, and patient was discharged from the hospital on a daily insulin dose of 50 units (see Fig. 1). During this last period of hospitalization physical examination revealed an enlarged spleen and the white blood cell count ranged between 12,000 and 18,000 per microliter, with about 80% lymphocytes. On the basis of these findings the diagnosis of chronic lymphatic leukemia was made, but in the absence of any symptoms no specific therapy was deemed necessary.

#### DISCUSSION

The subject of insulin resistance has been discussed in greater detail in a previous paper.<sup>3</sup> Therefore, it should suffice to state that idiopathic insulin resistance is generally assumed to be an immunologic phenomenon which is caused by the formation of insulin-binding antibodies.<sup>4-8</sup> While these factors have been demonstrated in all patients who received insulin for more than six weeks, an especially high level of insulin-binding factors has been found in cases of idiopathic insulin resistance. According to Berson and co-workers<sup>9</sup> the maximal capacity for insulin binding in non-resistant subjects rarely exceeds 10 units of insulin per liter of

plasma whereas it amounted to 80 to 400 units per liter of plasma in insulin-resistant patients. The difference between resistance and non-resistance in insulin-treated patients, therefore, seems to be just a quantitative one.

Why such large amounts are produced in some cases and under certain circumstances is still obscure. These binding factors prevent the insulin from entering the cell and thus interfere with its biological activity. By zone electrophoresis the insulin-neutralizing antibodies have been found to be associated with the gamma-2-globulin fraction of the serum.<sup>4,10,11</sup> Unlike these apparently true antibodies, humoral insulin antagonists were found in the alpha globulin fraction of the serum of patients with diabetic acidosis which disappeared as soon as the acidosis subsided.<sup>12</sup> These studies as well as those of the effect of serum from insulin-resistant patients on the combination of insulin with the rat diaphragm preparation<sup>13</sup> have shown that inhibition of insulin activity in idiopathic insulin resistance is fundamentally different from that encountered during diabetic acidosis.

Our case showed what others have observed in idiopathic insulin resistance, namely, localization of the insulin-binding antibodies in the gamma globulin fraction of the serum and the ability of the serum to protect mice from the hypoglycemic action of insulin. An interesting quantitative relationship between the insulin-binding power of our patient's serum and the severity of the insulin resistance could be established. At a time when 98% of the added insulin-I<sup>131</sup> was bound to gamma globulin, the daily insulin dose was 800 units. When only 42% of insulin-I<sup>131</sup> was attached to the gamma globulin fraction, the daily insulin requirement had dropped to 270 units.

Inasmuch as only that amount of insulin which is not prevented from entering the cell by insulin-binding factors can exert its biologic effect, the management of insulin-resistant diabetes should aim at providing enough free insulin for satisfactory control of the diabetic state. Therapeutic measures should be directed at the following points:

1. Saturation of the insulin-binding factors by large, preferably intravenously given, insulin doses.
2. Avoidance of further stimulation of insulin-antibody formation by the exclusive use of crystalline insulin.
3. Inhibition of or interference with the formation of insulin antibodies.

Alleviation of idiopathic insulin resistance by suppression of insulin-antibody formation has been attempted by several means. In our patient a marked decrease of the average daily insulin dose was noted following three injections of 7 mg. nitrogen mustard on one occasion and on three other occasions a decisive improvement of insulin resistance was achieved by the use of Tolbutamide (Orinase).<sup>2</sup> Similar results have been obtained by others.<sup>14,15</sup>

ACTH or adrenocortical steroids have been used in a number of cases with insulin resistance. Review of the literature reveals that the majority of patients so treated, showed remarkable remissions of their insulin resistance,<sup>4,6,8,17-20</sup> while only a few cases failed to respond favorably to the administration of ACTH or adrenocortical steroids.<sup>11,21</sup> In our case we used ACTH, Prednisone and Triamcinolone, respectively, during different periods of hospitalization. Each time a prompt fall in the daily insulin requirement could be observed (see Fig. 1). On three occasions the daily insulin dose could be reduced to 19%, 16%, and 17% of the respective initial dose.

The *modus operandi* of the adrenocortical steroids has not been completely explained. The following modes of action have to be considered:

1. Suppression of antibody production.
2. Prevention of antigen (insulin)-antibody combination.
3. Accelerated dissociation of insulin from the antigen-antibody complex.

Observations reported by some investigators<sup>4,20</sup> as well as our own experience lead us to regard the suppression of antibody formation as the most logical explanation for the efficacy of the adrenocortical steroids in insulin resistance. The steroids seem to exert little or no effect on the already present insulin antibodies, but apparently inhibit the further production of antibodies in response to the continued administration of the antigenic substance, namely, insulin. Rausch-Stroomann<sup>22</sup> found an increased insulin-antibody titer 15 to 60 minutes after injection of a large insulin dose. By interrupting this vicious circle the steroids favorably influence the ratio between free and antibody-bound insulin and thus make more insulin available at the cellular level. Further reduction of insulin requirement then takes place as the circulating binding factors are gradually metabolized and the released insulin can exert its hypoglycemic effect. According to Berson and Yalow<sup>23</sup> the tendency of insulin-resistant patients to develop hypoglycemia for several days following the cessation of high insulin dosage is consistent with the slow dissociation of insulin from the antigen-antibody complex.

As can be seen from Figure 1, the drop in our patient's insulin requirement was a gradual one, and a decisive reduction of the daily insulin dose usually took place one to two weeks after initiation of treatment. During the first week of Prednisone medication the patient actually required more insulin than prior to its use. A similar observation prompted premature discontinuance of the steroids in a few other cases of insulin resistance which then were reported as "treatment failures."<sup>11,21</sup> Oakley and his co-workers<sup>20</sup> found a good correlation between an increased insulin-antibody titer in insulin-resistant patients and their favorable response to treatment with steroids. Out of six insulin-resistant cases treated with Prednisone, the four who were proved to have a significant amount of antibodies



showed a marked and rapid fall of the insulin requirement following treatment, while the other two who had no increased amount of insulin antibodies did not respond and actually demonstrated an increased need for insulin. This fact as well as the initially increased demand for insulin in those cases which eventually responded favorably, can be attributed to the known diabetogenic action of adrenocortical hormones. Only after the effect on the antibody level outweighs the diabetogenic action of the steroids an actual decrease in the daily insulin requirement becomes apparent. For this reason it is important to continue treatment until a satisfactory and stable insulin dosage has been achieved. On the other hand, after insulin resistance has been broken and administration of steroids has been discontinued, removal of the diabetogenic effect results in further reduction of insulin requirement.

#### SUMMARY

A diabetic patient with severe recurrent idiopathic insulin resistance is described who has been observed over a six-year period.

During this time use of ACTH and adrenocortical steroids on three occasions resulted in a reduction of the daily insulin requirement to 19%, 16%, and 17% of the respective initial dose.

The management of idiopathic insulin resistance with special reference to the use of adrenocortical steroids is outlined. The salutary effect of the adrenocortical hormones is attributed to the suppression of insulin antibody formation. Attention is directed to the fact that the response to treatment often is slow and gradual and that occasionally an initial increase of the daily insulin dose may be expected. A prolonged administration of the steroids is necessary to prevent treatment failure.

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# Medullary Spinothalamic Tractotomy

## For High Intractable Pain

ALBERT S. CRAWFORD, M.D.\*

For the surgical relief of intractable pain cordotomy has proven to be the most reliable method thus far devised. Although this operation was first done by Martin in 1912, it has always been considered a Spillor-Frazier procedure. The world literature abounds with many reports giving the varying methods, techniques and results. It has continued to prove invaluable over the years.

Its rationale is the fact that the pain fibres are grouped in a compact pathway entirely separated from the motor and other sensory components and lie in the parts of the cord and medulla which are least vulnerable to destructive sectioning.

Until recent years the site of section has been in the high dorsal region. It is known that in the transmission of sensations from periphery to the brain, the fibres carrying pain and temperature sense enter the spinal cord in the dorsal roots and then promptly cross over to the opposite antero-lateral portion of the cord. There they are grouped in layers like an onion skin, the sacral being the most lateral and the cervical occupying the most medial position. At first these fibres are probably more loosely grouped and occupy a relatively larger area in the cord. The higher they ascend in the cord, the more compact the pathway becomes. In the medulla it is relatively small in section and quite separate from the motor and other sensory elements. The only structure that lies external to the pathway is the dorsal spino-cerebellar pathway of Gowers. This has to do with the finer functions of coordination of the extremities. Its gross destruction may result in some or transient incoordination on that side.

In later years the trend among neurosurgeons has been to do the section in the high cervical region, C.2 if unilateral, and C.3 and 5 if bilateral. This separation with the bilateral sections has been to lessen the risk of damaging the phrenic motor mechanism, as it can be very disastrous or even fatal in some bilateral cases. The advantage of the high cervical over the dorsal level section is that to obtain a higher level of analgesia the cut need not be quite so deep and hence not so likely to damage pathways subserving the urinary and vasomotor functions. However, the advocates of high cervical cordotomy nearly all admit that there is a higher mortality and morbidity rate. Grant and Wood,<sup>1</sup> in

their excellent review of Grant's experiences, state that the method is not too satisfactory in controlling high level pain involving the roots of the brachial plexus. Jackson,<sup>2</sup> and Ogle, French and Peyton,<sup>3</sup> in their reports, bring out the higher risks in the cervical cordotomy.

In 1941 White,<sup>4</sup> and Schwartz and O'Leary,<sup>5</sup> reported sectioning the spinothalamic pathways in the medulla. Although in their cases there resulted satisfactory relief of pain, there was accompanying ataxia, probably due to injury of the olive and also possibly to the extensive section of the spino-cerebellar pathways. In 1947 we reported 11 cases of satisfactory relief of pain with a high level of analgesia using the medullary approach.<sup>6</sup> In this series we made the section below the lower end of the olive and used narrow-bladed knives so as to reduce the damage to the dorsal spino-cerebellar tract which we feel explains why ataxia did not result. We had hoped from this and the subsequent report in 1952<sup>7</sup> that medullary tractotomy would prove to be a more generally accepted method as it seemed to us to be preferable to the high cervical approach. D'Errico<sup>8</sup> and Klemme,<sup>9</sup> each reported favorable results with this method.

We are herewith adding four additional cases done at the VA Hospital, to the previously reported 19 cases, in order to bring out again the reasons why this method seems to us to be preferable to the high cervical approach, especially for the high level pain in upper extremities.

### CASE REPORTS

These four cases, briefly summarized, are:

Case No. 20. A 21-year-old veteran suffering from intractable pain in right arm and shoulder which had come on a year previously after removal from the right axilla of an undifferentiated carcinoma. A left medullary tractotomy was done on 5/11/53. He was rendered analgesic up to the C.2 level on the right. He has been followed in the Tumor Clinic yearly for six years and thus far has not shown any further signs of malignancy and has been free of pain on the right side of his body.

Case No. 21. A 49-year-old male veteran complained of post-traumatic pain in the left shoulder and arm of 12 years' duration. He was incapacitated for work because of the pain. Although we were doubtful of the outcome, we finally consented to do a right medullary tractotomy on him on 12/29/53. That resulted in freedom from the right arm and shoulder pain and to date

\*From the Division of Neurosurgery, Veterans Administration Center, Togus, Maine.



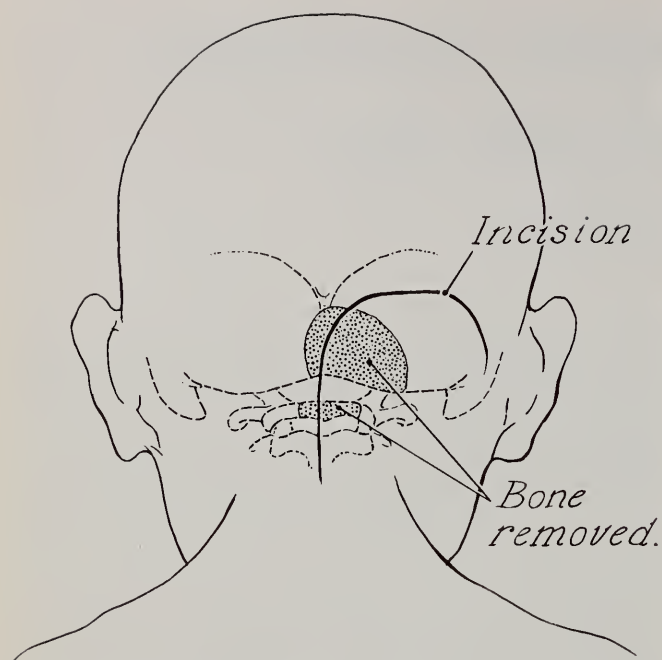


FIG. 1. Diagram showing location of skin incision and amount of bone removed.



FIG. 2. Site of puncture 5 mm. caudad to the obex and ventral to the tuberculum cinereum.

he has maintained a complete analgesia on the right to the C.2 level, but he has had various complaints, thought to be functional, on the left side of the body which have kept him from returning to a gainful occupation. So, although the tractotomy was successful in relief of the original pain, it failed to restore him to normal psychologically, and he is on a permanent pension.

Case No. 22. A 68-year-old male veteran who presented in 1956 with a long history of pain in the right

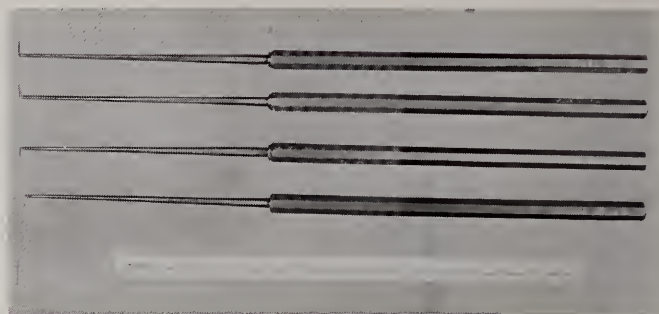


FIG. 3. Upward and downward cutting knives for medullary spinothalamic tractotomy.

arm and shoulder girdle. This had resulted from an accidental brachial plexus root avulsion with a flail arm which, after a year, had to be amputated. After a long interval, with minimal discomfort, he again severely injured the right shoulder by a fall. Again severe pains returned in the region of the axilla. This persisted in spite of several injections and dorsal root section done at two excellent medical centers. The pain had some characteristics of phantom and was thought to be largely functional in nature. But, after a careful concerted study by our whole staff, it was felt that we should try once more to relieve his pain, so a left medullary spinothalamic tractotomy was done on 4/17/56. This procedure abolished the pain and he has maintained a permanent analgesia over the right side of the body with upper level at the trigeminal level. He has been followed for nearly four years and admits that he has been free of his old pain. However, he has been troubled at times by a more or less constant deep-seated type of burning in various parts of the analgesic right side of body. He seemed well otherwise, and grateful for the relief of pain. As a comment on the burning type of paresthesia, such has been experienced by all neurosurgeons, not only after cordotomy, but by nerve root sections anywhere, and has to be taken as a calculated risk in surgery on certain highly nervous individuals.

Case No. 23. A 39-year-old Canadian veteran, presented in 1960 with a painful stump of the right arm. This arm was severely wounded in 1945, requiring a mid-arm amputation, which continued to be painful. After several re-operations on the stump and a right frontal lobotomy in two Canadian hospitals, several stellate blocks and an upper dorsal sympathectomy were tried in 1950. Each procedure gave transient or no relief. A left medullary spinothalamic tractotomy was done here on 2/2/60. He was relieved of his pain and to date has maintained a right-sided analgesia with upper level to cranial V. In this last case it is too short a follow-up to be certain of the final results but he seems very pleased thus far with the freedom from pain. He can now use the arm again.

White, Richardson and Sweet,<sup>10</sup> in their excellent study in high dorsal cordotomy, report some failures to obtain complete relief of pain even with extensive bi-



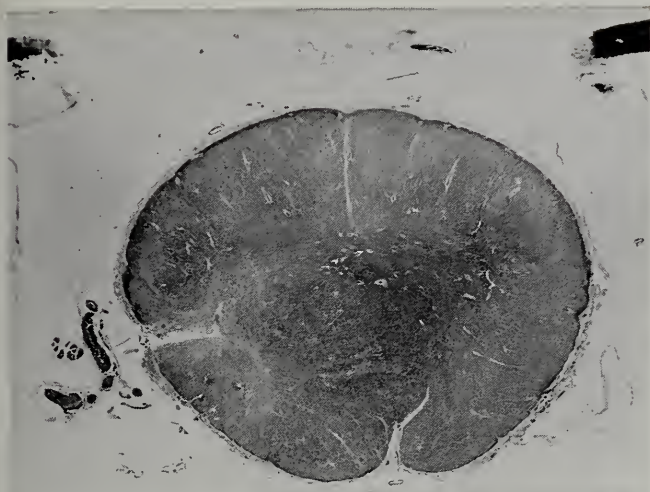


FIG. 4. Photomicrograph of lower medulla showing site of medullary spinothalamic tractotomy and extent of damage to surrounding structures in Case 18. (Fiber stain.)

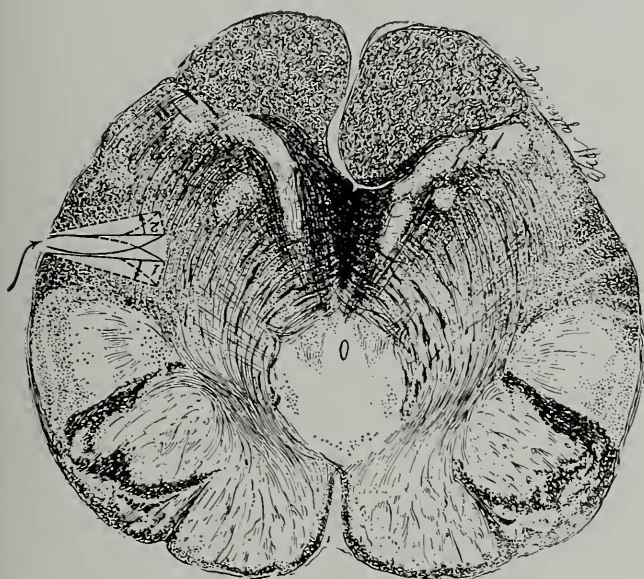


FIG. 5. Diagram showing the method of section of the spinothalamic tract in the medulla by the up-cutting and down-cutting knife blades. The point of entry is approximately 1 mm. in width, thus largely sparing the fibers of the spinocerebellar tracts.

lateral sections. They postulate that there probably are other pathways for pain conduction. From our experiences with medullary section we wonder if this may be equally well explained by postulating that the various pain fibres are still more or less scattered and are not fully assembled until reaching the medulla, where there they become concentrated in a smaller, more compact bundle. This is a theory which should be tested and proven only by more extensive experience.

In criticism of the medullary approach, it has been described as a more formidable procedure than the high cervical approach. We have found no more difficulties

in this approach. Fig. 1 shows the incision. It is done with the patient on his side with head resting on an adjustable head-holding device. Much of the operating is done under combined local and light general anesthesia. The point of section is made in the medulla below the lower pole of the olive and above the pyramidal decussation. Reliable guides, easily found, are the obex and the rootlets of Xth and XIth nerves. The incision must be anterior to the three eminences of the funiculi gracilis and cuneatus, and of the descending root of the trigeminal nerve, (Fig. 2). We also place emphasis on the narrow, thin-bladed knives (Fig. 3) which have been set at 30-degree angles for cutting, and each made for its special function of up and down cutting on right and left sides (Fig. 5). Fig. 4 shows that there was more cutting under the surface which explains the lack of ataxia following section, and Fig. 5 shows the point of entrance of the knife blades and manner of cutting upwards and downwards through the original opening.

In summary, we have reported four additional cases of medullary spinothalamic tractotomy, all of which were relieved of pain of upper extremities and maintained high levels of analgesia up to the trigeminal level, and this was accomplished without paresis and ataxia. We hope that this report will stimulate more use of this approach in preference to high cervical cordotomy. Also, that with added experience we will learn more about the finer anatomy of the pain pathways.

#### ACKNOWLEDGMENT

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# Recurrent Thrombosis In Unrecognized Malignant Tumors Of The Lung

## Report Of Two Cases

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### INTRODUCTION

The importance of thrombophlebitis as a possible sign of obscure malignant disease was pointed out by Trousseau<sup>1</sup> almost a century ago. Since the original observation of Trousseau, convincing evidence has been accumulated by many investigators that a relationship does exist between cancer and phlebitis. Idiopathic venous thrombosis may be the first clinical manifestation of an occult malignancy and carcinomas of the pancreas, lung, and stomach are reported among the most frequent offenders.<sup>2</sup> Often the malignant lesion is not found until autopsy. The thrombotic disorder may be migratory in nature involving veins in any area of the body.

Sproul,<sup>3</sup> in a review of over 4200 consecutive autopsies, found that of 332 cases of various systemic conditions associated with venous thrombosis, 150 proved to be cases of cancer. In the cases of cancer of the lung in this series there was a 2.5% incidence of venous thrombosis. Clinically the attacks of venous thrombosis may antedate symptoms of visceral carcinoma by weeks or months, especially if the carcinoma is located in a silent organ such as the periphery of the lung. In various reports the clinical recognition of thrombophlebitis antedated the diagnosis of malignant disease by periods varying from as little as four days to as long as seven months.<sup>4,5,6</sup>

With this brief introduction, two cases of occult carcinoma of the lung having thrombotic complications as their presenting features, are reported.

### CASE REPORTS

Case No. 1. 62-year old white male admitted to Togus Veterans Administration Hospital on 10/5/58 complaining of pain and discoloration in the right fifth finger and swelling of the legs and ankles associated with purpuric rash on both legs. Three months prior to admission patient first noted swelling of the feet and ankles, followed shortly thereafter by development of pain in the right hip. Three weeks prior to admission

a brownish rash appeared over the lower legs, and 24 hours prior to admission patient noted onset of pain and discoloration of the tip of the right fifth finger. He was referred to this hospital because of impending gangrene of the involved digit. Past history was otherwise non-contributory. System review revealed a 10 to 12-year history of exertional dyspnea and the fact that the patient smoked one package of cigarettes per day for many years. Physical examination at the time of admission revealed a blood pressure of 170/98. Patient was well-developed and well-nourished but in distress because of pain in the right fifth finger, which was cyanotic and cold. There was edema of the anterior surface of the right forearm. The right ulnar pulse was absent. There was bilateral edema of the feet. Both femoral and popliteal pulses were present. There was a petechial eruption over the lower legs consisting of small, brownish, slightly elevated spots. The remainder of the physical and neurologic examinations was not remarkable. Laboratory data showed a Lee-White coagulation time of seven minutes, prothrombin time was 46% of the normal control, a white count of 8,400, hemoglobin 11.9 grams, platelet count of 128,000, and a hematocrit of 42 vols.%. Serial blood cultures, aerobic and anaerobic, were negative. X-ray of the chest was reported as being within normal limits. X-rays of the legs showed bilateral calcification of the walls of the lumbrical vessels. X-rays of the hands showed calcification in a segment of each radial artery. Electrocardiogram was within normal limits. At the time of admission the patient was considered to have suffered an arterial occlusion involving the right fifth finger, etiology of which was obscure. The patient was treated with Heparin®, Dicumarol® and peripheral vasodilating agents. After three weeks of anticoagulant therapy patient was strikingly improved and anticoagulant therapy was gradually tapered. At this point the patient developed acute bilateral thrombophlebitis of the legs, and full anticoagulant therapy with both heparin and dicumarol was reinstituted, with marked symptomatic improvement. At this point an upper gastrointestinal series was carried out in a search for intra-abdominal malignancy and this was reported as being

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within normal limits. The patient's course gradually went downhill with weight loss, anorexia, and marked elevation of the alkaline phosphatase. At the end of December, 1958, the patient developed pain and discoloration of the distal portion of the right foot and then progressive gangrene in the right leg despite anticoagulant therapy. A mid-thigh amputation became necessary and was carried out on 12 January, 1959. At the time of operation, thrombosis of multiple veins in the amputated extremity was noted. Anticoagulant therapy was resumed postoperatively in the form of Dicumarol. The patient's course continued downhill and, on 15 January, 1959, circulatory collapse developed and an electrocardiogram at this time showed evidence of recent posterior myocardial infarction. The patient expired on 1/15/59, some five and one-half months after onset of his illness. Post-mortem examination revealed a bronchiolar carcinoma in the lower lobe of the right lung with metastases to regional and retroperitoneal lymph nodes, and to the liver. There was also evidence of acute myocardial infarction and of a non-bacterial thrombotic endocarditis. Infarcts were present in the spleen and left kidney and thrombosis of the splenic vein and artery, as well as thrombosis of both femoral veins, was noted. The pancreas was normal.

In summary, this 62-year old male became ill in July of 1958 with symptoms and signs suggesting bilateral lower extremity venous thromboses. Subsequently he developed evidence of arterial occlusion, followed by multiple recurrent venous thromboses, a progressive downhill course, and death as a direct result of acute myocardial infarction five and one-half months after the onset of his acute illness. Only at post-mortem examination was bronchiolar carcinoma of the lung discovered, which had been previously unrecognized. In addition, the patient had evidence of non-bacterial thrombotic endocarditis.

Case No. 2. This 67-year old retired mail carrier entered the Togus VA Hospital on the 18th of September, 1959, because of a three-week history of pain and swelling and tenderness of the left lower extremity. A diagnosis of acute thrombophlebitis had been made which had failed to respond well to therapy. Prior to the onset of his thrombophlebitis the patient had had a mild upper respiratory infection accompanied by mild asthmatic symptoms. Past history was significant in that patient complained of numerous upper respiratory infections and stated that he had occasional wheezing, particularly in association with respiratory infections. Patient stated that he used less than a package of cigarettes daily. Physical examination at the time of patient's first hospital admission showed a dyspneic male complaining of vague left-sided chest pain and tenderness in the left leg. There were fine, moist rales at both lung bases which did not clear on coughing. The blood pressure was 150/90. There appeared to be slight cardiac enlargement and an irregularity of heart rhythm, suggesting auricular fibrillation.

There was 2+ pitting edema of the left lower extremity from the knee down with tenderness in the calf and along the saphenous system. Arterial pulses were present. The remainder of the physical and neurologic examinations was essentially within normal limits. Initial X-ray of the chest showed the heart shadow to be prominent transversely and there was slight bilateral pulmonary emphysema and fibrosis with pleural thickening at the periphery angle and slight elevation of the right diaphragm which was thought possibly to be related to pulmonary infarction. Electrocardiogram shortly after patient's hospital admission showed changes compatible with right ventricular strain. Following admission to the surgical service the patient was treated conservatively with local applications of moist dressings to the left lower extremity, elevation of the left lower extremity and anticoagulant therapy. Anticoagulant therapy consisted initially of heparin and Dicumarol and then Dicumarol alone. Considerable difficulty was experienced in attempting to maintain a satisfactory prothrombin time with Dicumarol and this treatment was discontinued. Patient's symptomatology gradually decreased but he ran an intermittent temperature elevation varying from 100 to 102 degrees. The possibility of recurrent pulmonary emboli was considered and the patient was subjected to ligation of the superficial saphenous system on the 23rd of October, 1959. This venous system was found to be filled with clot at this time which extended down into the deep saphenous system. Patient continued to have edema of the left foot and leg and continued to show intermittent spiking elevations of temperature. Because of this he was transferred to the medical service for further evaluation. It was felt that he had suffered recurrent pulmonary infarcts and had had transient right-sided heart failure secondary to pulmonary embolism with infarction. After transfer to the medical service the patient was restarted on anticoagulant therapy in the form of dicumarol. Elastic bandages were utilized and the patient was gradually ambulated. His low-grade temperature disappeared without other specific therapy. Because of persistent hoarseness, laryngoscopy was carried out, which showed normal movement of the vocal cords. A repeat X-ray of the chest showed an oval density at the periphery of the left mid-lung field, thought to be related to a pulmonary infarction. By early December, repeat X-ray showed clearing of the density in the left mid-lung field. The patient's course appeared to be satisfactory with no evidence of recurrent thrombophlebitis and he was discharged from the hospital December 28, 1959, to continue on long-term anticoagulant therapy, to be controlled initially by weekly prothrombin time determinations. During this patient's hospital stay the possibility of underlying malignant disease was considered but in view of the patient's general improvement, the absence of specific findings on chest X-ray, and in the absence of other specific complaints, further investigation was not carried out. The patient returned



to the hospital just 10 days after discharge complaining of painful swelling of the right arm of two days' duration. This had begun with thrombosis of a superficial vein in the region of the right wrist and the thrombotic process had extended up into the right upper arm so that the patient had edema of the entire right upper extremity. This occurred while the patient was on anticoagulant therapy and when the prothrombin time was at a satisfactory therapeutic level. At the time of re-admission to the hospital the patient also complained of pleuritic-type right lower anterior chest pain and re-x-ray of the chest at this time showed findings compatible with pulmonary infarction on the right. Laboratory data at the time of admission showed white count of 12,900 with 85% neutrophils, prothrombin time of 24 seconds, and hemoglobin of 9.8 grams. L.E. test was negative. A glucose tolerance test showed a normal curve and alkaline and acid phosphatase determinations were within normal limits. At the time of re-admission to the hospital the possibility of underlying malignant disease was considered the likeliest possibility in view of the recurrent acute thrombophlebitis occurring while the patient was on anticoagulant therapy. An X-ray of the upper G.I. tract failed to reveal any evidence of pathology but decision was made to carry out an exploratory laparotomy to rule in or out the possibility of carcinoma of the pancreas. This surgical procedure failed to reveal any intra-abdominal pathology. The procedure was tolerated reasonably well by the patient. Subsequently, while still on anticoagulant therapy, patient developed a superficial thrombophlebitis in the right lower extremity which extended up into the right thigh. At this point he was placed on Heparin, in addition to Dicumarol, and had no further acute thrombophlebitic episodes. However, his course was progressively downhill. He became anorexic, had marked shortness of breath on minimal exertion, intermittent wheezing, persistent cough, and hoarseness. Repeat X-ray of the chest again failed to show any definite pulmonary pathology. On the 2nd of April the patient had some vomiting and diarrhea and on the following day showed blood pressure of 90/60. He continued to be anorexic and weak and expired on the 3rd of April 1960. Patient's blood pressure remained at shock levels during the last 24 hours of his life despite vasopressor agents, intravenous fluids and antibiotic therapy. Post-mortem examination revealed a bronchogenic carcinoma at the periphery of the right lung field, metastatic involvement of azygos node, and bilateral adrenal metastases. The tumor was an adenocarcinoma, primary in the right lower lobe. The location of the primary tumor would have excluded the possibility of it being seen on bronchoscopic examination.

#### DISCUSSION

Explanation for the initiation of a thrombosing tendency in some patients with malignant disease is not

yet understood. It has been held that this tendency may be associated with the release of an excessive amount of thromboplastin as a result of tissue cell destruction but there is no conclusive evidence of this.<sup>7</sup> Areas of migratory phlebitis are not typically sites of metastases. Marked dehydration, immobilization, co-existing non-malignant systemic disease, a significant mechanical effect from pressure of tumor and primary disease of veins have been excluded as important etiologic factors in most cases of this sort. The consensus at present favors an alteration in the coagulability of blood as the result of lysis of neoplastic tissue despite the absence of substantial proof of such a mechanism.<sup>5</sup>

Before the use of anticoagulants thrombotic disease associated with cancer was usually persistent until death. The significance of the resistance to anticoagulant therapy of phlebitis associated with malignant disease is not always fully appreciated.

In Wright's<sup>7</sup> experience with the use of anticoagulants in such patients, several facts emerged. First, while anticoagulants may be effective in causing subsidence of phlebitis during its early stages, as the malignant disease progresses the phlebitis may break through the anticoagulant treatment and progress despite continued treatment. This sequence of events was noted in both of the cases herein reported. Secondly, the coumarin compounds seem less effective than Heparin in combating this condition and in its late phases, no anticoagulant may be effective.

A problem that each physician must resolve when he sees, for the first time, a patient with idiopathic thrombophlebitis is whether he should undertake an extensive investigation to uncover malignant disease. The views of various authors writing on this subject are at variance.

Wright,<sup>7</sup> in 1952, stated that his group was becoming more inclined toward exploratory laparotomy in the presence of phlebitis with negative X-ray and blood studies. Perlow and Daniels,<sup>5</sup> in reporting 10 cases of obscure visceral carcinoma associated with venous thrombosis, stated that greater awareness on the part of a physician might result in earlier diagnosis of malignancy and thus increase the number of operable and possibly curable cases. Fisher, et al.,<sup>6</sup> in reporting four cases of obscure malignant tumor of the lung antedated by thrombophlebitis, pointed out that, as with other neoplasms, early diagnosis of carcinoma of the lung is of paramount importance. They indicated that early recognition of a second attack of thrombophlebitis, regardless of its location, mildness or intensity, or its duration should result in a thorough search for underlying malignant disease. One of their four cases was operable and the patient was reported well nine and one-half months after extirpation of the involved lung. Knowles and Smith,<sup>8</sup> in discussing the extra-pulmonary manifestations of bronchogenic carcinoma, stated that the dictum that widespread phlebitis generally indicates inoperable tumor is not invariably true. However, they

felt that clearly documented relief of previous migratory phlebitis by successful removal of lung tumor has yet to be demonstrated.

A less encouraging point of view has been presented by Wessler and Deykin.<sup>9</sup> In their experience no cures of cancer, detected after the onset of phlebitis, have been observed. Over a five-year period at the Beth Israel Hospital in Boston these authors were not cognizant of a single patient with carcinoma, in whom the diagnosis was made after the development of clinical phlebitis and in whom the surgeon found an operable, much less a "curable" lesion. Finally, since both phlebitis and carcinoma are both very common disorders, it was their opinion that the occasional report of the onset of phlebitis providing a clue to a "curable" malignant lesion might well be fortuitous and coincidental.

In the two cases that are the subject of this report, the possibility of underlying malignant disease was considered and a careful investigation carried out. This investigation included study of the gastro-intestinal tract by X-ray in both cases, repeated chest X-rays in both cases, and abdominal exploration of one of the two patients. In neither patient was the primary site of malignant disease discovered prior to necropsy.

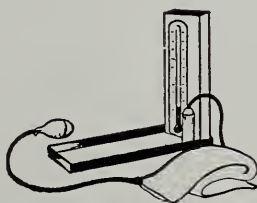
#### SUMMARY AND CONCLUSION

Two cases of obscure carcinoma of the lung presenting with initial complaints referable to thrombotic disorders are reported. The time interval between the initial thrombotic disturbance and the diagnosis of malignant disease of the lung was five and one-half

months in one patient and seven months in the second patient. The diagnosis of malignant disease must be suspected whenever thrombophlebitis persists or is migratory in spite of anticoagulant therapy in adults over the age of 30. Thrombophlebitis may occur as a relatively early complication of latent carcinoma in any one of several viscera. Whether malignant disease, heralded by the development of thrombophlebitis, can be cured if detected early remains a moot point.

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## SPECIAL ARTICLE

## Mail-Order Rx Schemes\*

It may be a long time before the patient who just walked out of your office with an important prescription in his pocket ever gets around to taking the needed medication — the reason — mail-order prescription schemes.

Now being heavily promoted all across the nation, these schemes center their publicity on cut-rate prescription prices.

Here, for example, is what might happen to your patient.

Instead of taking his prescription to his community pharmacist to be filled that day, he drops it into the mail to one of these operations perhaps a thousand miles away. From seven to ten days later, the filled prescription comes back, perhaps too late to do the job for which it was originally intended.

Your patient in the meantime, still experiencing the symptoms which prompted his visit to you in the first place, attempts to tide himself over until the prescription arrives by applying some sort of self-medication which may give him temporary relief and at the same time lessen his understanding of the importance of your diagnosis and the drugs you prescribed.

Not only are dangerous delays characteristic of the mail-order mechanism, but the public is also denied the complete services it has a right to expect from any pharmacist in any pharmacy. As a regular practice mail-order operators refuse prescriptions containing narcotic drugs. Most patients have no knowledge of what is and what is not a narcotic drug; and therefore any warnings by the mail-order house that it will not accept prescriptions for narcotic drugs become meaningless. The patient, after exposure to unnecessary delay, discovers that his prescription is only obtainable from his community pharmacy.

Prescriptions for narcotics are not the only ones which mail-order houses refuse to dispense. There are classes of prescriptions which are being refused by mail-order operators for their own convenience, especially prescriptions which require compounding. Both the ethics and traditions of the pharmaceutical profession demand that a pharmacist make every effort possible to promptly dispense every prescription he receives regardless of the amount of professional attention required.

Because these depots operate on an impersonal assembly-line basis in a jurisdiction where only the supervision — rather than the actual dispensing — by pharmacists is required, the danger of dispensing errors is increased. Moreover, by operating outside the states in which the prescription was originally written, these houses deny the patient the protection he has a right to expect from his own state laws governing the practice of pharmacy.

Another area in which the public is being misled is illustrated by quoting from a full-page advertisement which a District of Columbia mail-order operator inserted in *The Philadelphia Inquirer* of Sunday, April 3, 1960:

**"YOUR PRESCRIPTIONS ARE COMPOUNDED  
BY REGISTERED PHARMACISTS!"**

"Our registered pharmacists compound your prescriptions in ultra-modern, regularly inspected pharmacies — using the finest, freshest nationally known ingredients."

**"YOUR ORDER IS FILLED IMMEDIATELY  
TO ASSURE YOU OF FRESHNESS!"**

"The same day we receive your prescriptions — our pharmacists fill them and mail them out. This assures you of the freshness of every medicine you receive from us. And, of course, with our volume business and volume turnover, our shelves of vitamins and chemical ingredients are constantly replenished with fresh items."

After the publication of this advertisement, it was revealed that the premises described consisted of nothing more than an empty room without any inventory, fixtures, or pharmaceutical equipment.

This advertisement was refused by two other large circulation newspapers, and the matter has been called to the attention of the Federal Trade Commission.

Perhaps as important as anything else to the medical profession is the fact that such schemes make it convenient for certain kinds of practitioners, unauthorized to prescribe in their own states, to write prescriptions that will be filled by these distant operations. The geographical separation between prescriber and dispenser makes it virtually impossible, and impractical for these operators, to check the source or to offer professional advice to the patient when he receives his medication.

The greatest opportunity for mail-order promotion has been the geriatric market, where public attention has been mostly concentrated in recent months.

\*Published in cooperation with the Maine Pharmaceutical Association, Edward L. Allen, Executive-Secretary.

A host of other unanswered questions comes to mind when prescriptions are ordered from these assembly-line outfits. For example, how can we safely assume that long-distance dispensing will be as the prescriber intended? Is the way paved for substitution? Has the prescription been compounded under sanitary conditions?

The District of Columbia, where standards for pharmaceutical practice are based on an antiquated 1906 act of Congress, has become the haven for mail-order operators.

One of these Washington-based firms was recently brought before Corporation Counsel of the District of Columbia. The investigating officer described the premises as "without facilities for compounding prescriptions," and noted further that the only "sink was located in the rear of the store by going through a room that had waste paper for wrapping and packaging all over the place and the room where the sink was located proved to be filthy and the sink itself was corroded and stained and in a filthy condition."

That these mail-order prescription schemes are truly a menace to public health was emphasized by a statement made by Dr. George M. Fister, a member of the American Medical Association Board of Trustees, in an address to the recent meeting of the American Pharmaceutical Association House of Delegates. Physicians, he noted, can easily warn their patients of the many flaws in these dangerous mail-order operations. He went on to condemn the mail-order schemes as "one of the gravest problems" facing the health field today.

A physician for more than 30 years, Dr. Fister said that he does his best to discourage any patients from sending prescriptions to a mail-order operation.

"The personal touch is still essential," he said. America's high standard of medical care was "founded on

this firm foundation of personal service, and we would be foolish indeed not to preserve it."

The development of highly concentrated synthetic drugs, purified natural products, potent dosage forms and special needs in storage and dispensing all have created new problems of drug supervision, regulation and administration. The pharmacy and drug laws of each state are designed to protect citizens from the effects of ignorance and incompetency in these matters which are beyond individual patient control.

The American Pharmaceutical Association has launched an educational campaign to inform all members of the medical profession about the inherent dangers in mail-order prescription operations. The national professional society is also supporting H.R. 10597 which will bring to the District of Columbia a modern pharmacy act.

At an emergency meeting in Washington, D. C., haven of the prescription-by-mail operators, Dr. William S. Apple, APhA Secretary, declared that, "If this personal pharmacist-patient relationship is not preserved, the next break in the chain will inevitably be the elimination of the physician as the diagnostician and substitution of the mail-order purveyor as the prescriber. The only call on the physician," he said, "will be to write the death certificate. Individual acceptance of professional responsibility by all members of the medical team can quickly put an end to the development of centralized mail-order prescription depots."

If mail-order prescription hazards are to be fully recognized, the medical profession must join with other members of the health team by reacting quickly and in a positive manner. Otherwise the public will be misled into believing that an impersonal centralized mail-order method is an acceptable substitute for sound community medical-pharmaceutical service.





# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

**Major Bills Pending**

Just before Congressional recess, Senator Pat McNamara (D., Mich.) introduced bills to create a U. S. Office of Aging (S. 3807) and establish a 3-year, \$15 million Senior Citizens Service Training Program (S. 3793). The objective is not to gain enactment when the House and Senate resume sitting next month, but to work up momentum for the related plans so that adoption in the 1961-62 Congress will be a fair goal.

What Congress *will* do when it comes back to Washington, some observers are predicting, is pass a social security bill with medical benefits for the aged, and President Eisenhower will veto it. A more realistic prophecy is that the President will approve such a bill, however reluctantly, because to do otherwise would impose a grim handicap on the Republican nominee for succession to this office.

**ELDERCARE DEVELOPMENTS**

The U. S. Chamber of Commerce came out emphatically against all pending eldercare plans, including the House-passed version (HR 12580) endorsed by A. M. A.

In the last few days preceding the recess, Senators introduced dozens of amendments to the House-passed social security bill.

**NEW DRUG CONTROLS**

Senate and House identical bills (S. 3815 and HR

12949) were introduced at the request of the Department of HEW for the purpose of strengthening Federal controls over the manufacture and sale of new drugs. Main features: Extend factory inspection provisions of the food and drug law; compel manufacturers to keep records and make reports on clinical experiences with products undergoing trial; require certification of all antibiotics.

**CLEARED FOR PRESIDENT**

Approved on Capitol Hill and now awaiting only White House signature to become law are bills calling for finer anti-carcinogenic screening of color additives (S. 2197); budgeting 1960-61 funds for the Veterans Administration (including a record \$21.5 million for medical research), and expanding this nation's obligations to further medical research and public health on an international scale. (S.J.Res. 41).

Representative Kenneth Roberts (D., Ala.), who steered this global health bill to House passage, characterized it as a vitally important milestone toward the achievement of world peace. Senators Humphrey and Hill also hailed enactment of the resolution.

**BYRD'S BACKING RAISES CHANCES OF KEOGH BILL.**

A short time before it recessed until August 8, Senator Harry F. Byrd informed the Senate that he favors and will vote for passage of the Keogh bill (HR 10) in the form in which it was amended by the Finance Committee, of which Senator Byrd is the chairman.

Debate on this measure to encourage the establishment of voluntary pension plans with income tax benefits is to be resumed after the Senate meets again. Byrd's declaration of position elevates its chances measurably.

"I believe the (Finance) committee bill is the best approach to the problem proposed to date," said the Senator. "It will reach individuals in a wide variety of trades and professions in a reasonable manner and within a pattern already existing in the Internal Revenue Code."

#### MANY AMENDMENTS PENDING

Many Senators have given notice that they will propose various amendments to HR 10 when the time comes for a vote on the bill. Amendment sponsors include Senators Albert Gore (D., Tenn.), Milton R. Young (R., N. D.), Hubert H. Humphrey (D., Minn.), John J. Williams (R., Del.), Russell B. Long (D., La.), R. Vance Hartke (D., Ind.) and Paul H. Douglas (D., Ill.).

#### SOCIAL SECURITY AMENDMENTS

The Government Printing Office has been hard put to keep up with Senators' proposed amendments to the multi-sectioned social security bill (HR 12580). Several dozen have come into print, but more are believed to be on the presses. They cover a wide range: Inducements to employers to hire older persons by offering tax credits; lowering retirement age to 60; raising to \$3,600 the earning limit of persons on old age benefits, etc., etc., including the various medical care innovations.

#### AGED NEED HIGH LEVEL AGENCY, SAYS McNAMARA

Bearing the names of 10 Democratic co-sponsors, the new McNamara bill (S. 3807) authorizes the establishment of a U. S. Office of Aging within the Department of HEW and the appointment of an Assistant Secretary to head it up. "Little wonder that no appreciable headway has been made in finding a way for our aged to live in dignity and comfort," said McNamara. "The aged of our nation need and deserve a high level agency to serve as their spokesman."

#### THREE KINDS OF GRANTS

S. 3807 provides for three types of grants: (1) A flat award of \$40,000 to each state to help finance the preparation of plans encompassing analyses of existing services to the aged and exposition of future requirements in order of priority; (2) matching grants for demonstration projects, with \$70 million in Federal funds authorized over a 4-year period, beginning in 1961; (3) grants aggregating \$2 million to public and nonprofit institutions for research and training programs.

#### DECLARATION OF OBJECTIVES

The bill carries a 10-point Declaration of Objectives for Senior Citizens, as follows: (1) Adequate income

in retirement; (2) "the best possible physical and mental health which medical science can make available and without regard to economic status"; (3) suitable housing; (4) restorative services for those who require institutional care; (5) employment opportunities without age discrimination; (6) retirement in "health, honor, dignity"; (7) pursuit of meaningful activity; (8) community services available when needed; (9) immediate benefit from proved research gains; (10) free exercise of initiative in daily life.

#### Chickenpox Can Be Fatal In Adults

Chickenpox in adults is "a potentially fatal disease," a Texas physician warned.

Writing in the (July 2) *Journal of the American Medical Association*, Dr. Stewart A. Fish of Dallas said it has become evident that chickenpox, which is usually a mild childhood disease, may cause severe complications and death in adults.

Dr. Fish reported four fatal cases of chickenpox occurring during pregnancy. In three of the cases, the mothers were exposed to the disease by their children. In all four cases, the disease affected the lungs and other parts of the body.

However he said, "there is apparently no specific tendency or increased susceptibility to chickenpox during pregnancy."

In 66 cases of disseminated chickenpox reported since 1942, the sex distribution is fairly equal, he said, and the association with pregnancy is probably coincidental.

The mortality among patients with disseminated chickenpox has been estimated to be between 10 and 30 per cent, he added.

#### Ideal Drug For Reducing Hinges On Research

Will power is still more potent than any drug to curb overeating and probably will remain so until the appetite mechanism of man is better understood.

This is the conclusion drawn by Dr. Walter Modell, director of clinical pharmacology, Cornell University Medical College, New York, in a report on the "Status and Prospect of Drugs for Overeating" to the Council on Drugs of the American Medical Association.

"Drugs which give assistance along the lines now available provide short-lived symptomatic relief only," according to Dr. Modell's report published in the (July 9) *Journal of the American Medical Association*.

"These seem to be useful only as adjuvants to a carefully controlled diet and, in many cases, some sort of psychotherapy.

"Total therapy must consider the psychosocial aspects of eating patterns and the desire to lose weight, as well as the specific psychological or physiological disturbance which has brought on the hyperphagia (overeating).

"In virtually every instance, motivation for losing weight as well as the psychological reasons for overeat-



ing are important considerations in determining the therapeutic regimens which are likely to be effective and to lead to sustained benefits.

"If more were known about the normal appetite mechanism, perhaps something more rational and lasting could be done about it pharmacologically. However, although we have many hypotheses, neither the central site nor the precise mechanisms of normal appetite control are yet definitely established."

Dr. Modell said studies indicate that man has a natural tendency to maintain a balance between caloric intake and energy output, adding:

"The eating patterns of most modern human adults, however, are so distorted that appetite drive and specific food selection appear to have little to do with energy and metabolic requirements."

The culture one lives in has a strong effect on eating habits, he said, and in our present society "social protocol also complicates matters."

"The business luncheon with cocktail, the before-meal highball or two or three, the with-highball canapes, all are part of the mores which consider the slim figure desirable but provides eating customs which make it hard to achieve," he said.

"Although hereditary predisposition appears to be important in some persons, this is often difficult to distinguish from culturally based obesity. Genetic, glandular, and other physical and physiological causes play a statistically small role in obesity, probable in less than 10 per cent of all cases."

Whereas obesity is a consequence of a variety of non-related causal factors, Dr. Modell said, there are no drugs to produce loss of appetite "to fit specific disturbances in eating patterns, and there are no useful depressants of the appetite center, wherever it may be."

A large part of Dr. Modell's report was devoted to an examination of stimulating drugs, such as the amphetamines or "pep pills," which he termed the "mainstay" of current pharmacotherapy for obesity.

In the use of this group of drugs, the patient's abnormal drive for food is distracted by a sense of well-being or "lift."

However, he said, these drugs "do not produce appetite suppression in obese persons sufficiently to make them lose weight without simultaneous dietary control."

Undesirable effects caused by stimulants have limited their use, he pointed out, and have thus far appeared to be indivisible from their power to curb the appetite.

Relatively few cases of acute poisoning and serious reactions have been reported as a result of their present large-scale and continued use, he said. However, he warned that they are "not innocuous" and may cause restlessness, excitement, depression, irritability, exhaustion, headache, dizziness, heartburn, nausea, vomiting, and diarrhea.

Habituation has been reported after the continued use of some members of this group, he said, and therefore, are not desirable for prolonged therapy.

Dr. Modell also was critical of phenylpropanolamine which can be sold without prescription and is used in such products as Regimen tablets, Di-Dol, and Rx 121.

"Although there is some evidence that if phenylpropanolamine is given in large enough dosage it will induce some anorexia (loss of appetite), a recent study . . . indicates that, in the usual doses found in these remedies (25 mg. or less), it is no more effective than a placebo," he said.

"In any event, it is likely that, if doses were used which induced anorexia, difficulties would arise due to elevation of blood pressure."

Dr. Modell made these additional points:

—Since an emotional disturbance of some sort is the basis of overeating in many persons, sedation and tranquilization may possibly assist in depression of appetite.

—Bulk has long been suggested as a means of satisfying the appetite of the obese. Unfortunately, cabbage, lettuce, and other articles of the typical grassy, high-bulk, low-calorie diet do not appeal to the average over-eater who perversely prefers to distend his stomach with undiluted fat, protein, and carbohydrate.

—Many expensive obesity "cures" depend on an exhibition of weight loss to entice the patients into continuing treatments, especially in expensive salons. Cathartics, diuretics, and salt restriction are often used in such schemes, for, through dehydration, they induce some weight loss very promptly. However, in the obese patient, weight loss by water excretion is both meaningless and senseless. It does not represent a loss of fat.

—There is no reason to believe that vitamins, minerals, or sweets (e.g. Ayds, R.D.X.), containing nutritional elements, have any merit in the treatment of obesity. "Weight loss through the use of such unscientific preparations can only be excellent proof of the importance of the psychogenic elements involved and of the effectiveness of suggestive advertising."

### **Bee Stings More Deadly Than Snake Bites**

More Americans will die this year from insect stings than from snake bites, an article in the (July) *Today's Health* magazine indicated.

"Each year, more Americans die from the stings of the little insects buzzing in our gardens and parks than from bites of all venomous reptiles combined."

"Most medical authorities are convinced that severe reactions to insect stings are the result of an allergy," the article said.

No one knows exactly how many persons are allergic to the stings of insects, but in the opinion of one allergist, "severe reactions to insect stings occur more commonly than is generally supposed."

"In fact, it is possible that unrecognized cases account for some of the sudden deaths attributed to heart failure and heat prostration in the insect season," Dr. Harry L. Mueller of Boston said.

The insects that cause most of the reactions are the

honeybee and bumblebee and three kinds of wasps — yellow jacket, hornet, and *Polistes* — although about 25 other insects have been reported to produce allergic symptoms in man.

Because their nests are hidden and they are easily irritated, yellow jackets account for most of the insect stings. Honeybees and bumblebees are much less likely to sting.

A knowledge of the nature of bees and wasps can be of help in avoiding stings, the article said, making these points:

—If you see more than two yellow jackets or bumblebees disappear under leaves in a woods, it is likely that their nest is located there. Bees and wasps usually sting only when their nests are threatened or they are actually touched.

—If you are buzzed by a bee or wasp, never flail at it with your arms. Walk slowly away. Stinging insects are more apt to attack a fast-moving object because they are sensitive to air movements and sudden motion.

—Bees seem to be angered by dark shades, whereas white or khaki clothing does not bother them.

—To keep yellow jackets and bees from gathering at picnic tables, spray the area with a repellent chemical.

—Bees and wasps are attracted by hair oils and perfumes which contain floral odors.

—Finally, be sure that there are no nests of yellow jackets, bees, or other wasps in the immediate area of your house or yard. Killing a nest is a tricky business and a trained exterminator should be hired for the job.

The author of the article is Peter Farb.

### **Sabin Urges Nation To Seek End Of Polio By Next Summer**

Dr. Albert B. Sabin, developer of the live poliovirus vaccine that bears his name, urged that an attempt be made to eliminate polio in the United States before next summer.

In an editorial in the (July) *Archives of Internal Medicine*, published by the American Medical Association, Dr. Sabin said:

"The laboratory and field experiences with the oral poliovirus vaccine strains that I selected are now available for decisive judgment, and two American pharmaceutical companies expect to have the required number of successive lots of vaccine produced under the safeguards specified by the National Institutes of Health by autumn of 1960.

"The question now remains whether the health authorities and physicians of the United States are ready to take the necessary steps for an attempted elimination of poliomyelitis from the country before the summer of 1961 or whether the country will continue to pay the high current price for only partial prevention of the paralytic disease?"

The Public Health Service has delayed licensing the Sabin vaccine pending "evidence of safety and lack of

significant reversion to virulence," according to a statement by Surgeon General Leroy Burney last December.

Since the Sabin vaccine is produced from live virus strains that are weakened until harmless, it was feared that the viruses might regain their power to cause the disease after the vaccine is administered.

In this connection, Dr. Sabin cited field tests in Estonia and Lithuania as "the best obtainable field experience not only on the safety of the vaccines used but also on their effectiveness in the elimination of paralytic poliomyelitis."

In these field trials, he said, vaccination of 50 to 60 per cent of the most susceptible age groups was completed before the summer of 1959.

The naturally occurring polioviruses in the unvaccinated group as well as those emanating from the hundreds of thousands of susceptible persons infected by contact with the vaccinated group had an opportunity to spread during the summer period when there has always been an increase in the number of polio cases, he said.

A thorough followup of the results of the vaccination program showed an absence of the summer increase as well as an "unprecedented reduction in the incidence of poliomyelitis in the entire population of the two republics," he said.

Dr. Sabin said these field trials were "a reasonable basis for the attempt to eliminate completely paralytic poliomyelitis and its causative viruses by feeding the vaccine to almost all susceptibles in a population."

Such an eradication program has been carried out in Hungary where almost all children from two months to 14 years of age have been vaccinated, he said, and similar programs are now in progress in Russia and Czechoslovakia.

"In order to rob the naturally occurring paralytogenic polioviruses (viruses that cause paralytic polio) of the soil on which they grow, it would be necessary, in a country like the U.S.A., to feed the oral vaccine within a relatively short period of time during the winter and spring months to most preschool and school-age children, regardless of the number of doses of Salk vaccine they might have had," Dr. Sabin said.

"The relative cheapness of the oral vaccine and the ease of its administration should permit community-wide programs that would make the vaccine available to all without reference to ability to pay. This would provide a means of protecting not only the individual but also the community."

### **Sun Can Damage The Eye Despite Dark Glasses**

Smoked glass or dark glasses cannot protect the eye from the direct rays of the sun.

"There is unfortunately a widespread misunderstanding that dark glasses are sufficient to protect the eye when one looks directly at the sun," according to Dr. William W. Bolton, associate director, Department of Health Education, American Medical Association.



Writing in the (July) issue of *Today's Health*, published by the A. M. A., Dr. Bolton said after each eclipse of the sun "a certain number of persons are observed to have permanent damage of the retina, with loss of central vision, even after using smoked or dark glasses."

"Even when the sun is partially observed, its rays are still very intense," he said. "Dark glasses only screen against reflected glare that results as the sun's rays strike the earth."

### Third Annual Report Traces Medicare's Swift Growth

The Office for Dependents' Medical Care has sent to Congress its third annual report on the Medicare program. Although it discloses a reduction in hospital admissions in 1959, due to retrenchments introduced in October, 1958 (and abolished 15 months later), the military program's rising popularity is reflected by other statistics. Following are some of the highlights:

Number of inquiries processed was 22 per cent over 1958.

In the second half of 1959, the average physician's claim was \$80.58. The number of children per family rose to 1.66, compared with 1.27 when this program was inaugurated in late 1956.

Army, Navy and Air Force all cited the lack of dental care as a handicap to troop morale.

Sixty-eight per cent of hospital admissions were for maternity care, 18 per cent for medical and 14 per cent for surgery. Note: Washington Report On The Medical Sciences will try to supply single copies of this report, on request.

### Drive Begun For Nursing Home Center In Capital

Senator John J. Sparkman (D., Ala.) was a Congressional sponsor of a unique project — the development of an International Nursing Home Education, Research and Service Center. Financed privately, with Mutual of Omaha paying for architectural plans, the center is to be erected in Washington. It will comprise a model nursing home, training school, a geriatrics library, a permanent display of nursing home equipment, and research facilities. Senator Sparkman heads the advisory committee, whose members include officials of the Public Health Service and A.M.A.

The father of the Center idea is Frank C. Bateman, executive director of the American Nursing Home Association. The project's cost is estimated at \$500,000. Completion is tentatively scheduled for mid-1961.

### Heart Can Now Be Revived With Closed Chest

Cardiac massage — often a life-saving measure — can now be performed without opening the chest.

A closed-chest technique for reviving a heart that has

stopped was described by W. B. Kouwenhoven, Dr. Ing. (Doctor of Engineering), James R. Jude, M.D., and G. Guy Knickerbocker, M.S.E., Johns Hopkins University School of Medicine, Baltimore, in the (July 9) *Journal of the American Medical Association*.

"The real value of the method lies in the fact that it can be used wherever the emergency arises, whether that is in or out of the hospital," they said. When the heart stops, circulation must be restored promptly or the consequent loss of oxygen can do irreparable damage to the brain or nervous system.

The new technique was worked out in experiments with more than 100 dogs, they said, and as applied to man "requires only the human hand."

The method consists of applying pressure with one hand on top of the other vertically downward on the patient's breast bone about 60 times per minute. At the end of each pressure stroke, the hands are lifted slightly to permit full expansion of the chest.

The pressure on the breast bone compresses the heart between it and the spine, forcing out blood while relaxation of pressure allows the heart to fill, the researchers explained.

At first, they said, it was felt that use of the technique might be limited to children whose ribs were known to be flexible. However, they said they found that the chest of an unconscious adult is "remarkably flexible."

During the past 10 months, the closed-chest method has been used on 20 patients ranging from two months to 80 years of age, they reported, adding:

"All 20 patients were resuscitated and . . . 14 of them are alive without central nervous system damage."

The technique has been "proved to be effective" in cases of heart stoppage and has "provided circulation adequate to maintain the heart and the central nervous system," they concluded.

### Eldercare Issue's Growth Amazes Council's Analyst

Eugene F. Rinta, research director of the Council of State Chambers of Commerce, says he found this year's development of the issue of health services for the aged "rather amazing when considered in the light of its status a short time ago." While concluding that the Ways and Means Committee compromise is least objectionable of the six studied, he nevertheless called it "another step toward assumption by government of what have heretofore been individual, family, church and community responsibilities."

The Forand, Kennedy and McNamara plans are rejected in the Rinta report for their excessive costs — well over \$1 billion a year in the beginning and more in later years — and their "compulsory" features. Javits and Administration plans, while voluntary, also would cost the government more than \$1 billion a year. Rinta

*Continued on Page 262*

# Report of the Delegate to A.M.A.

Miami, Florida — June, 1960

President Vincent Askey, in his address to the House of Delegates, indicated the five most important areas of concern to organized medicine in the foreseeable future.

## 1. Medical Education —

He pledged himself and the Association to provide more and better physicians. This is to be done by improving recruitment methods, revamping medical education to fit the changing needs, providing loans and scholarships to students, and enlarging teaching facilities. He stressed that these objectives can only be achieved by individual and organized effort at all levels of the Association.

## 2. White House Conference on Aging —

He emphasized the need for "medicine" to prepare its "case" well, and begin planning now. He strongly urged individual physicians and organized medical groups to gather facts, clarify philosophies, and provide the leadership for a presentation worthy of and beneficial to the aged citizen and the medical profession.

## 3. Voluntary Health Insurance Relating to Third Parties —

The initial meetings with representatives of industry, labor, Blue Cross-Blue Shield, private insurance groups were so successful that further conferences are planned. It is possible that many of the conflicts among the groups — especially labor and medicine — may be resolved. Similar meetings are urged for state and county societies.

## 4. Membership —

Every means must be utilized to improve the understanding and relationship between the A. M. A. and its members. The family ties must be strengthened and unification of purpose emphasized.

## 5. Mental Health —

There is an increasing awareness of mental illness as a cause of morbidity and unhappiness among our citizens. His opinion is that there is a great lag between present knowledge and its application, particularly in the field of etiology and epidemiology. A complete report of a three and a half year study is to be soon presented by the "Joint Commission on Mental Illness and Health." Each of us has a responsibility, not only as physician to patient, but also as people to people.

Retiring President Orr told of his personal efforts to attempt the defeat of "Forand-type legislation" and told of the present bill initiated by the House Ways and Means Committee. This bill, Title XVI to Social Security Act, provides Federal-state grant-in-aid provisions for near-needy aged. It is basically in accord with the A. M. A. goals, in that it is voluntary, state-administered, and only for the needy. Its success in the Senate is unknown.

Orr initiated and is to Chairman a Commission of the A. M. A. to study the "Costs of Medical Care," which has as its purpose to increase the efficiency of medical care, and study such advances as Atomedics.

### HOUSE OF DELEGATES ACTIVITIES

#### 1. Aid to Retired Physicians

Heard a report about a possible home for retired physicians,

but found there was no demand for such a home, but suggested that each society make provisions to provide for its own members as the need indicates.

#### 2. Study of Drug Costs

Approved a study of the testing, approval, pricing, and marketing of *Drugs* and report its findings to the public and the profession next year.

#### 3. Health Education

Approved a resolution of the Board of Trustees favoring medical leadership in the instruction of effective health and physical education programs, for all students.

#### 4. Occupational Health

Approved a new version of a statement on "Scope, Objectives and Functions of Occupational Health Programs," which would be of great value to those interested in occupational health.

#### 5. Exams for Pilots

Again emphasized the necessity for "qualified physicians" to examine *Class III pilots*. A short course for those interested in doing such exams will soon be available in all regions of the country.

#### 6. Polio Foundation

Approved a set of guides for county societies in their dealings with The National Foundation (Polio).

#### 7. Mail Order Drugs

Disapproved "the unorthodox practice of *mail order* filling of *prescription* drugs as not in the best interest of the patient, except where unavoidable because of geographic isolation of the patient."

#### 8. Blue Shield

Approved a statement of the Council on Medical Service: of A. M. A. Support of Blue Shield concept — This included such policies as:

1. Acceptance of leadership by the medical profession in sponsoring and approving mechanisms for assisting the public in meeting medical care costs.
2. The use of the prepayment mechanism in spreading the costs of medical care on a rating basis to make it possible for plans to assist people to meet the cost of health care.
3. Physician participation to make it feasible for plans to provide continued leadership in experimentation for the improvement and expansion of benefits to subscribers.
4. Medical society representation in determination of policy to prevent interference with the rights of the physician in exercising professional judgment in rendering medical care and to assure that the scope of benefits and benefit allowances are fair to both patient and physician.
5. Medical society cooperation in preventing abuses of the patient, physician, or plan.
6. Freedom of choice of physician for each patient. As well, the A. M. A. encourages such Blue Shield plans



in allergic and inflammatory skin disorders (including psoriasis)

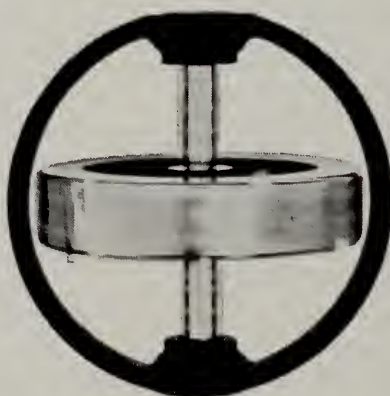


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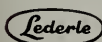
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**References:** 1. Feinberg, S. M.; Feinberg, A. R., and Fisherman, E. W.: *J.A.M.A.* 167:58 (May 3) 1958. 2. Epstein, J. I., and Sherwood, H.: *Conn. Med.* 22:322 (Dec.) 1958. 3. Friedlaender, S., and Friedlaender, A. S.: *Antibiotic Med. & Clin. Ther.* 5:315 (May) 1958. 4. Segal, M. S., and Duvenci, J.: *Bull. Tufts N.E. Medical Center* 4:71 (April-June) 1958. 5. Segal, M. S.: Report to the A.M.A. Council on Drugs, *J.A.M.A.* 169:1063 (March 7) 1958. 6. Hartung, E. F.: *J. Florida Acad. Gen. Practice* 3:18, 1957. 7. Rein, C. R.; Fleischwager, R., and Rosenthal, A. L.: *J.A.M.A.* 165:1821 (Dec. 7) 1957. 8. McGavack, T. H.: *Clin. Med.* (June) 1959. 9. Freyberg, R. H.; Bernitsen, C. A., and Hellman, L.: *Arthritis & Rheumatism* 1:215 (June) 1958. 10. Hartung, E. F.: *J.A.M.A.* 167:973 (June 21) 1958. 11. Zuckner, J.; Ramsey, R. H.; Caciolo, C., and Gantner, G. E.: *Ann. Rheumat. Dis.* 17:398 (Dec.) 1958. 12. Appel, B.; Tye, M. J., and Leibsohn, E.: *Antibiotic Med. & Clin. Ther.* 5:716 (Dec.) 1958. 13. Kalz, F.: *Canad. M.A.J.* 79:400 (Sept.) 1958. 14. Mullins, J. F., and Wilson, C. J.: *Texas J. Med.* 54:648 (Sept.) 1958. 15. Shelley, W. B.; Harun, J. S., and Pillsbury, D. M.: *J.A.M.A.* 167:959 (June 21) 1958. 16. DuBois, E. L.: *J.A.M.A.* 167:1590 (July 26) 1958. 17. McGavack, T. H.; Kao, K. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: *Am. J. M. Sc.* 236:720 (Dec.) 1958. 18. Council on Drugs: *J.A.M.A.* 169:257 (January) 1959.



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in experimentation directed toward continued improvement in our voluntary prepayment and health insurance system. Each plan should cooperate in providing such data to the A. M. A. as might be deemed necessary.

These statements are of particular importance to the Health Insurance Committee, Delegates, and those dealing with Blue Shield.

#### 9. Building Fund Assessment

Wished to inform its members that hospital or hospital staffs have no right to compulsory assess members for building funds.

#### 10. Care of Aged

Many social, medical, and economic factors have contributed to a decrease in the purchasing power of the aged. The A. M. A. through its "Committee on Aging" and Legislative branch organized allied groups to defeat "Forand type" legislation by a concerted public education effort.

The economic plight of the aged is not as great as is represented by those favoring "Forand type" legislation. 49% of those over 65 have already some form of insurance coverage with this number increasing rapidly.

The A. M. A.'s positive program to promote the optimum social, spiritual, and medical health of the aged concerns itself with:

##### A. Indigents and Near Indigents -

By approving a public assistance program for those who are considered indigent by local authorities.

##### B. Facilities -

Endorsed F.H.A. funds for nursing home construction and encouraged the development of house care programs and homemakers services.

##### C. Voluntary Health Insurance-

Urged expansion of existing plans and extension of coverage for catastrophic illness.

##### D. Attitude toward the Aged -

Supported the idea of giving a helping hand rather than a handout to the aged and sought the elimination of mandatory retirement over 65 and job dissemination for those over 45.

#### 11. A. M. A. Concept of Aged Care Program

Stated the following basic principle for type of care for the aged . . . . "where an individual is able to provide

for his own medical care (from personal resources, insurance, a pre-payment contract, annuities, or other income) government at any level has no role. When an individual is unable to provide for his own needs, the community has the primary responsibility for sharing these costs. When the community and county is unable to meet these obligations, the state has a responsibility, and only as a last resort is federal government participation, administered locally, warranted."

#### 12. Lifting Work-Ban for Aged

Resolved that "the A. M. A. increase the educational program, regarding employment of those over 65, emphasizing voluntary, gradual, and individualized retirement, thereby giving those individuals not only the right to work, but the right to live in a free society with dignity and pride."

#### 13. "Para Medical Groups"

Approved a detailed report and accepted the "Guiding Principles for Relations Between Physicians and Allied Health Professions." Anyone with specific questions regarding this problem can find the answers in this report.

#### 14. A. M. A. - A.O.A.

Approved continuing the talks by the Liaison Committee of A. M. A. and A. O. A. (osteopaths).

#### 15. Intern Shortage

Considered the problem of Foreign Medical Graduates and insufficient interns and recommended that hospital staffs improve their educational programs, arrange if possible affiliation with teaching hospitals or university hospitals, and critically review their capacity for training interns.

#### 16. Nurses-Physicians Relations

Approved a report of the Liaison Committee with National Nursing organizations which had in essence a plea for physicians to cooperate with the nursing profession by serving on Advisory Committees for the nurses.

#### 17. Voluntary "Security" for Physicians

Referred to the Board of Trustees to study the possibility of providing Group Disability and Group Annuity Programs for A. M. A. members.

# Maine Medical Association

## ANNUAL COMMITTEE REPORTS — 1959-1960

### Standing Committees

#### Legislative Committee

CHARLES A. HANNIGAN, M.D., Chairman

The main activities of the Committee the past year have consisted of efforts to defeat the Forand Bill, and similar type medical legislation. Our opposition here is based on the fact that this type legislation will lead to eventual control by a third party of the Patient-Physician relationship. It must, therefore, follow that acceptable legislation to fulfill any demonstrated health needs of our Country must, in effect, guarantee that it will not, and cannot interfere with this relationship.

There were two proposals given us by the House of Delegates last June. The first was concerned with a proposed basic science law. This proposal was discussed with members of State Licensing Boards at Chicago in February of 1960. All felt that such a law could keep otherwise well-qualified Physicians from seeking and qualifying for licensure. Because of the demonstrated shortage of Physicians in Maine, it is our feeling that we should not, at the present time, add a basic science law which might further aggravate this shortage. The second proposal was concerned with a proposed course in legal medicine for our Medical Examiners. We feel that this is a worthwhile proposal and we approve of it.

There is another area of medical practice in this State which at various times involves us all, and in which certain revisions of our laws are urgently needed.

Because mental illness more and more must be considered a sickness similar to heart disease, cancer or diabetes; and, because for many of our citizens, the only adequate hospitalization for mental illnesses is afforded by our State Hospitals, we feel that a reorientation of lay and professional-thinking regarding mental illness is in order.

We realize that the different mental health programs are

filling a need in public education, and deserve our continued support; we also realize that mental health clinics are filling, in certain areas, a need for ambulatory care. We feel, however, that many of our patients are being denied needed hospital care for mental illnesses because the process of commitment is so often too onerous a burden for Patient and Family to bear. We would recommend, therefore, that a Committee of mental hospitals' heads, Legal Association members, and Medical Association members be set up to formulate legal and expeditious means for admitting patients to our State Mental Hospital.

#### Public Relations

ROBERT J. BARRETT, JR., M.D., Chairman

The Public Relations Committee of the Maine Medical Association was not very active during the year of 1959-1960, due to the absence of the necessity of mass action on any one big issue which would have necessitated considerable work as we did during the times with the polio immunization program.

There were very few requests of the Public Relations Committee by the Association or other Committees of the Association during this year.

Most of the on-the-spot Public Relations work has been carried out in its usual excellent manner by our Executive Director, Daniel F. Hanley, M.D.

The major work of the Committee was performed at the time in assistance to the Interim Meeting of the Maine Medical Association which was held in Bangor with assistance being given to this committee in directing help in the usual Public Relations channels, and the Committee will give its assistance at the June meeting of the Maine Medical Association at Rockland.

### Special Committees

#### Diabetes Committee

ELTON R. BLAISDELL, M.D., Chairman

The annual Diabetes Detection Drive was held, as usual, in November with an increasing number of individuals examined as compared with 1958; 40,174 were examined in the State and of this number about 16,000 were done by Dr. Melvin Bacon and his co-workers in York County.

Several organizations and individuals were responsible for the good results; the President and Secretary of the Maine Medical Association, the President and Secretary of the Maine Pharmaceutical Association, the State Commissioner of Health, with the Educational Consultant of the Department of Health and Welfare and the various physicians and nurses throughout the State who gave so freely of their time.

The clinitron, an apparatus for doing capillary blood sugars, was kindly supplied by the State Department of Health and Welfare and used by them in several of their Health Clinics

which helped to increase our total number of people examined by about 7,000. With this exception, the remainder only had urine examinations.

There were 269 positive urines and 85 positive blood sugars (Clinitron). Lack of money prevented any accurate follow-up of patients with positive findings but all these taking part in the testing were asked to refer all positive reactors to their family physicians.

With the increasing world-wide interest in this important and frequently destructive disease, it is apparent that Maine will increase its scope and efficiency in detecting Diabetes Mellitus in the earlier stages when it can usually be treated in physicians' offices rather than in hospitals with extra expense to the patient and frequently to the State.

Your committee takes this opportunity to thank all those who so kindly participated in the 1958-1959 Diabetes program.



### Conservation of Vision

DEXTER J. CLOUGH, 2ND, M.D., Chairman

The sole action of this Committee in the year 1959-1960 has been the approval of the Lions Maine Sight Conservation Association's work in conducting glaucoma detection clinics in the State; this approval being on the condition that Lions Maine Sight will function on its clinic activities, in its work with patients or its clients, in educational activities, and its public relations and publicity, under the supervision of an ophthalmologist, who, for the purpose of carrying out such supervision, will meet with Maine Sight's executive secretary at least once a month. This action was taken at a meeting of the Board of Directors of the Maine Sight Conservation Association on January 6, 1960, at Augusta, Maine. Members of the Maine Medical Association's Committee on Conservation of Vision present to take action for this Committee were Dr. Richard Dennis as proxy for Dr. Howard Hill, Dr. Paul Floyd, Dr. Otis Tibbetts and Dr. Dexter Clough.

### Joint Committee on Nursing and Medical Problems

PAUL S. HILL, JR., M.D., Chairman

As Chairman of the Joint Committee on Nursing and Medical Problems, I wish to make the following report.

This Committee did not have a formal meeting during the past year. The principal problems involving the two professions continues to be those related to nurse education and adequacy of supply of nurses in all categories.

Your Chairman has represented the Association for several years at the meetings of the Maine Multidisciplinary Study Group held in Augusta most every month. Lively discussions concerning this most difficult problem have attacked it from many angles.

At present a representative sub-committee has been studying the problem of financing undergraduate and graduate education in Maine. At the May meeting, the heads of the five diploma schools and one baccalaureate school were asked to be present. This meeting turned up many interesting facets of nurse education in Maine. This study, when completed, should be of great help in coming to some definite conclusions.

Meanwhile, with the able assistance of Dr. George Chase of Portland, a questionnaire is being contemplated which it is hoped, will be completed conscientiously by every physician in Maine and returned. In this way information can be obtained about the nursing problems directly from those who should know best how nursing needs are being met in this State.

### Veterans' Affairs

WILLIAM C. BURRAGE, M.D., Chairman

There was no meeting called of this committee during this period.

The acceptance of the requests listed by this committee for the fiscal year 1960 were announced in December, 1959.

Since there had been no requests received for further change in the hometown fee schedule with the necessary supporting evidence that the standard fees of any given county society had been made during the year, there has been no action taken in the fee matter.

Acknowledgment of the report of the Committee of Federal Medical Services of the American Medical Association given at the Annual Meeting of the A. M. A. in San Francisco is made. This committee suggests —

- a. That all state medical associations be urged (1) To assist actively in obtaining needed care for those veterans with financially catastrophic disabilities; (2) To help veteran patients determine the probable cost of

care so that they may more accurately judge their ability to pay, considering the extent of their insurance coverage; (3) To establish liaison with Veteran's Administration hospitals to assist in estimating the cost of private care in order to facilitate the admission of such catastrophic cases; and (4) To take such other steps as are advisable locally to assist veterans and their organizations in assuring that this care is provided for those who need it most.

- b. The recommendation of the following basic improvements in admission policies for non-service connected treatment in V. A. hospitals:

1. A realistic definition of inability to defray necessary expenses.
2. A realistic comparison of cost between federal and private hospitals.
3. A priority system for acceptance of non-service connected cases.

Consideration of the above suggestions would appear to be desirable and worthy of eventual implementation by this Society.

### Amy W. Pinkham Fund

NORMAN H. NICKERSON, M.D., Chairman

The Amy W. Pinkham Fund was established by the will of Amy W. Pinkham. This will left a sum of money to be used for the benefit of the "tuberculous or malnourished children of the State of Maine, preferably from rural areas." This money was left to no specified group or organization. It finally was decided that the money should be left to the Maine Public Health Association, which later became the Maine Tuberculosis Association — to be expended under the direction of The Maine Medical Association.

A committee from the Maine Medical Association met with Mr. Frank Mott, who was administrator of the Amy W. Pinkham estate, and with Dr. Edwin T. Wyman of Boston, to discuss how this money could best be expended to meet the requirements of the will. (Mr. Frank Mott was milk commissioner of Boston.)

On the advice of Mr. Mott and Dr. Wyman, it was decided that the money could best be expended by aiding school lunches in rural areas, but insisting that only pasteurized milk should be used in the school lunches where aid was given. The interest from this fund is still put to this use.

Mr. Edmund P. Wells, the Executive Secretary of the Maine Tuberculosis Association, actually handles this fund today. His report to the Maine Tuberculosis Association follows:

During the fiscal year ending March 31, 1960, school hot lunch capital equipment grants were awarded to the following schools in accordance with the policies governing Amy Pinkham Fund grants:

Springfield School	10/16/59	Deep Well Sink	\$250.00
Milbridge School	2/4/60	Freezer Unit	\$250.00

These two grants added 288 students served daily to the number of school children in rural schools throughout Maine already being helped through previous Pinkham grants.

In addition to the above, through special permission of both the tuberculosis association directors and the Medical association's committee, a \$50.00 scholarship was given to a Presque Isle school principal to attend the summer health education workshop at the University of Maine.

At the present writing, an additional grant of \$250.00 has been authorized for a freezer unit for the Van Buren School. Installation has been made but all necessary paper transactions

are not yet completed. Inquiries have also been initiated in two additional locations, one in Aroostook and another in York County.

The report of the financial operation of the Pinkham Fund for the fiscal year reported (April 1, 1959 — March 31, 1960) is as follows:

Cash in checking account — April 1, 1959	\$1,084.30
(First Portland National Bank)	
Interest received during year	
(Less bank charges \$26.26)	498.74
Total Receipts	\$1,583.04

Funds available for program	\$1,583.04
Expended for projects	500.00
Balance on hand, March 31, 1960	\$1,083.04

The accounts of the Amy Pinkham Fund are included in the annual audit performed for the Maine Tuberculosis Association by the firm of Jordan and Jordan, Portland, certified public accountants. As heretofore, all travel and administration costs of this program were contributed by the Maine Tuberculosis Association.

Following is a full record of completed projects since the program was initiated in 1951.

AMY W. PINKHAM FUND — GRANTS

Date	School	Town	County	Item	Cost	Served in Program
May 8, 1951	Ashland Community High	Ashland	Aroostook	Refrigeration	\$250.00	125
May 24, 1951	Ellsworth Falls	Ellsworth Falls	Hancock	Refrigeration	250.00	82
June 6, 1951	Harmony	Harmony	Somerset	Refrigeration	250.00	85
September 4, 1951	Strong Village	Strong	Franklin	Refrigeration	100.00	98
September 19, 1951	Sebec	Sebec	Piscataquis	Refrigeration	250.00	67
November 26, 1951	Milliken Consolidated	Kezar Falls	York	Deep Well Sink	125.00	130
December 6, 1951	Williams High Cons.	Oakland	Kennebec	Deep Well Sink	108.01	212
January 31, 1952	Howland Consolidated	Howland	Penobscot	Refrigeration	160.00	78
February 15, 1952	Stratton	Stratton	Franklin	Deep Well Sink	120.00	65
April 3, 1952	Cherryfield	Cherryfield	Washington	Refrigeration	250.00	89
April 15, 1952	Garland Village	Garland	Penobscot	Refrigeration	186.96	49
July 16, 1952	Surry	Surry	Hancock	Refrigeration	225.00	66
September 30, 1952	Welchville	Oxford	Oxford	Refrigeration	250.00	92
October 3, 1952	Pleasant Ridge	Caswell Plt.	Aroostook	Refrigeration	250.00	40
October 27, 1952	West Paris School	Paris	Oxford	Range	245.00	80
January 29, 1953	Trenton	Trenton	Hancock	Refrigeration	250.00	67
September 21, 1953	Harold B. Emery Jr. Elem.	Limington	York	Refrigeration	200.00	200
November 19, 1953	Friendship Village	Friendship	Knox	Refrigeration	250.00	70
March 22, 1954	Springfield	Springfield	Penobscot	Refrigeration	250.00	106
November 18, 1954	Plymouth	Plymouth	Penobscot	Deep Well Sink	120.00	73
June 8, 1955	Princeton	Princeton	Washington	Refrigeration	200.00	113
November 22, 1955	North New Portland	North New Portland	Somerset	Refrigeration	250.00	62
January 11, 1956	Detroit	Detroit	Somerset	Deep Well Sink	193.37	96
February 21, 1956	New Sharon School	New Sharon	Franklin	Refrigeration	150.00	70
November 26, 1956	Sherman School	Sherman Mills	Aroostook	Elec. Milk Cooler	211.85	216
June 7, 1957	So. Thomaston School	So. Thomaston	Knox	Completing work on lunch room	100.00	113
June 8, 1957	Frenchville School	Frenchville	Aroostook	Plates and Bowls	60.52	270
November 12, 1957	James H. Bean School	Sidney	Kennebec	Refrigeration	250.00	168
September 25, 1958	Kingfield School	Kingfield	Franklin	Refrigeration	250.00	179
February 23, 1959	Island Falls School	Island Falls	Aroostook	Deep Well Sink	250.00	166
October 16, 1959	Springfield School	Springfield	Penobscot	(2) Deep Well Sinks	200.00	126
February 4, 1960	Milbridge School	Milbridge	Washington	Freezer Unit	250.00	162
April 4, 1960	Van Buren School	Van Buren	Aroostook	Freezer Unit	250.00	406

Maine Committee

American Medical Education Foundation

ROBERT W. AGAN, M.D., Chairman

There has been no active campaigning by this committee, and none is planned until the question of our own State Medical Foundation is resolved.

It is to be noted, however, that for the past three years, only one State has given less than Maine to the A.M.E.F. Alaska, although in a cold climate, is warmer toward the American Medical Education Foundation than Maine, as evidenced by its giving.

Fifty percent or more of our contributions have been given by the various Woman's Auxiliary Boards of the County Societies.

Our Record is as follows:

NUMBER OF CONTRIBUTIONS			
	1957	1958	1959
Maine	36	53	61
AMOUNTS OF CONTRIBUTIONS			
	1957	1958	1959
Maine	\$822.94	\$1,232.75	\$1,606.30



## Mental Health

GUY N. TURCOTTE, M.D., Chairman

The Chairman of this Committee attended the Sixth Annual Conference of Mental Health Representatives of the State Medical Associations at the Drake Hotel in Chicago, Illinois on November 20-21, 1959. The general theme of the conference was "Organized Medicine in its Relationship to the Hospitalized Psychiatric Patient." Discussion Group Reports were entitled thusly:

1. In the State Hospitals and Other Public Mental Hospitals Area;
2. In the Private Mental Hospitals Area;
3. In the General Hospitals Area;
4. In the Out-Patient Psychiatric Clinics Area;
5. General Rehabilitation Services Area;
6. Area of Medico-Legal Aspects of Commitment, Discharge and Other Court Procedures Relating to the Mentally Ill.

Out of the many group and general discussions came a constant plea for a decentralization of patient care from the State Hospitals to the community health centers and general hospital. The need for broader voluntary insurance plans for the hospitalization of the psychiatric patient was emphasized. The problem of communication between Psychiatrists and other Medical groups relating to the emotionally and mentally ill was stressed with its importance in the care of the patient and the prevention of mental illness. The Activities of the AAGP in this whole area were applauded.

In communication with the Commissioner of Mental Health, the Committee was informed that the two State of Maine Mental Health clinics in Lewiston and Bangor continue their good work, which is ever increasing. Mr. Hayden is still looking for a qualified Psychiatrist for the newly created position of Director of Mental Health to head up the new Division of Mental Health. Salaries for the State Hospital psychiatrists have been increased as of May 1, 1960 in order to attract more of these physicians to Maine.

Legislation in the area of Mental Health in this State is continuing with the following:

INTERSTATE COMPACT ON MENTAL HEALTH which states in summary "the necessity of said desirability of furnishing such care and treatment bears no primary relation to the residence or citizenship of the patient, but that . . . services be made available for all who are in need of them."

AN ACT to Provide Expanded Community Mental Health Services: to encourage participation by persons in local communities; to obtain better understanding of the need of such services and to secure aid for the program and local financial support. Two communities have availed themselves of these funds for the:

1. Mt. Desert Island Child Guidance Association, and the
2. Northern New England Research and Alcoholic Rehabilitation Clinic in Portland.

Dr. Bowman, Superintendent of the Pineland Hospital and Training Center, reports the only major event at this institution was inspection in September of 1959 for accreditation by the Chief Inspector of the A.P.A. The chief complaint by the inspector "was the excessive over-crowding which was deemed 'so excessive' that accreditation could not be forthcoming no matter how competently all the other aspects of the hospital are managed, staffed and equipped."

The Bangor Hospital, with Dr. H. A. Pooler, as Superintendent, informs me that the discharges exceeded the admissions at that hospital. Minor improvements have been made to the wards, and they have increased the number of ward employees to offer better patient care. Recently, an addition to the Geriatric Pavillion has been started.

Dr. Sleeper, at the Augusta State Hospital, lists several important changes at this institution:

1. "Liberalized Voluntary Admission Policy";

2. Reduction of the total over-crowding to 5%, all of which is on the male side;
3. That the 80 bed TBC unit and the new 164 bed active treatment unit for disturbed women have proven "eminently satisfactory."
4. The new "day and night" Hospital Unit opened in January, 1960 is busy and successful.

The Discharge rate keeps pace with the Admissions; and there too, as elsewhere, the problem of Staff is a major one.

Plans for the future include a new Acute Admission Research Building and increased facilities for the Maximum Security Unit.

A meeting concerning "Mental Health in the Community," sponsored by the United States Public Health Service, was held at the Augusta House in Augusta on May 17, 18 and 19, 1960 for a group of 50 Lay and Professional interested individuals. The meeting was described as "realistic and sound."

The Committee on Mental Health met at the Augusta House on May 21, 1960 and approved the above report. Those attending were Drs. Broggi, Pooler, Sleeper and Turcotte.

## Committee on Aging

GEORGE J. ROBERTSON, M.D., Chairman

Never before has the world faced the present problems raised by the survival of great numbers beyond the age of productivity (arbitrarily fixed at 65 years). Control and prevention of world wide epidemics of diseases such as smallpox, syphilis, typhus, tuberculosis and malaria are contributing factors. The age of chemotherapy with development of wonder drugs such as penicillin has lessened the curse of common lethal infections such as lobar pneumonia. Advances in the medical field have led to the survival of these people.

In this country sixteen million, perhaps more, are now in this age group. What are their problems? Their problems are no different from those of any individual in society — survival, health, food, housing, clothing, self respect, and the economic means to obtain such. It is society's responsibility to allow these people the right and privilege to continue productivity and self maintenance throughout life.

The present problems in health care are the cost of medical care and the means of financing it. In most surveys the cost of medical care ranks in this order: hospital care, nursing home care, drugs and medicines, and physicians' care. The average man in any group cannot pay for catastrophic illness today. The aged in particular, limited in income by the rules of present day society, cannot pay.

At present there are two widely divergent thoughts concerning methods of payment: first, compulsory health insurance; second, voluntary health insurance. The story for each is well known. As we see it, either way can accomplish the job once the basic ideology is accepted; that is, should the individual sacrifice freedoms and decisions for the sake of security?

We feel that the responsibility for health care is first the individuals; second, the family's; third, the community's; fourth, the state's; and fifth, the federal government's. We believe that the function of the federal government is to do that for its people (when its people so wish) which the state and community cannot do. We feel strongly that the health problems of the aged in which the community, state and federal governments need to interest themselves are the health problems of the indigent aged. These are the people society is responsible for. Here are the people who are receiving inadequate health care. The largest single reason for the high cost of hospital care today is the lack of adequate compensation for the indigent hospital population. We ask and demand that the community and state seek means to rectify this situation. If they cannot, then the federal government must take over by default.



There are only ten states in the union which have adequate health care programs for their aged. Colorado, for example, is one state which is taking care of its responsibilities. If this state's plan were enlarged to a national program the cost would be far less than any of the presently proposed federal legislative plans. No federal office seeker has proposed a similar plan.

Twenty years ago less than fifteen per cent of the total population of any age group entering hospitals had any type of health insurance. Now forty per cent of the aged have some type of voluntary health insurance. The voluntary health insurers have been in the business of insuring the aged group for only two years actually. With the increased use of deductible policies the majority of the aged except for the indigent will soon be adequately covered in efficient manner without increasing the burgeoning cost of government.

Numerous communities throughout the nation are becoming aware of their local responsibility. Here is how Waterville, Maine, hopes to obviate the need for full federal responsibility for health care for its aged.

In 1957, Waterville conducted a survey of its aged living in homes. This pointed out that of the 1865 oldsters living in homes in Waterville 84.5% were under the care of a private physician. Twenty of 254 had a medical problem and were not seeking help. Pride, ignorance and lack of money, but really lack of local education were the answers. The feeling is that Waterville can adequately care for its aged with the expanded use of existing medical facilities.

In 1959, the Thayer Hospital in Waterville, Maine conducted a survey of those patients over 65 years of age who had entered the hospital during 1958. Sixty-five per cent of these aged had a chronic medical problem. Many of these problems could be handled outside the hospital with adequate facilities such as improved nursing homes, visiting nurses, and home care programs. The problem was not predominantly hospital care or surgical care such as the Forand Bill plans to cover. We feel that the Forand Bill's planned financing of hospital, surgical and nursing home care is pointed wrongly.

The results of these studies led to a nursing home program going on under the supervision of Dr. Harold Willard, director of a chronic care and rehabilitation wing attached to the Thayer Hospital, also to a proposal to turn one hospital in the town into a chronic care facility (to be evaluated), and to the prospect of visiting nurses attached to the hospitals. A home care program is not as yet active but is planned. All these activities would work in unison with the rehabilitation and chronic care wing of the Thayer Hospital which has been operating since 1958. A comprehensive medical care program is on the way with surveys indicating the needs and the programs resulting which will give effective medical care where it can be most economically and efficiently carried out — at the local level.

The federal legislature has passed a bill to study the problems of the aged — Representative Fogarty's White House Conference Bill — with the intended purpose of looking carefully at a problem before offering solutions. We heartily endorse this approach. The White House Conference is to be held in January 1961. Each state is carefully studying its problems and preparing a report with suggestions.

Unfortunately, in this political year we have not heard one federal legislator say, "Let's wait for the White House Conference report before offering solutions." Once a problem is well known and studied, solutions are usually easily forthcoming. The multiplicity of Democratic and Republican sponsored bills indicates strongly that the problem was not sufficiently studied before solutions were offered. There are, however, encouraging factors. Each new bill adds some desirable feature left out by previous bills such as deductible insurance policies, care of the indigent, and funds for stimulating and starting local programs.

We believe that of the millions over 65 some are indigent across the board of social needs, such as housing, income, clothing, food, medical care, etc. Some are able to get along except for medical care. These are the medically indigent. Some are well able to care for all their wants. Neither the federal government, the American Medical Association, state or local governments, or other interested agencies know the exact numbers. The present census should give us information of importance here.

The plea of this protocol is that further study is needed before adequate solutions can be offered for the medical care of the aged. Our federal legislators have acted wisely in preparing through the White House Conference Bill. The present obvious political maneuvering by both parties with the health of the aged as a pawn sickens one.

The Committee on Aging of the Maine Medical Association recommends the formation of a Joint Council on the Care of the Aged to include the medical association, the hospital association, nursing home associations, and nursing associations. It recommends secondly that the state seriously consider programs followed by such states as Colorado of supplying Blue Cross-Blue Shield type of insurance to its aged. The committee feels that federal help is needed in the care of the indigent and perhaps in the care of the medically indigent but not for those among the sixteen million who are able to care for themselves. Here the voluntary insurance plans should suffice. The committee intends to obtain and study each of the plans suggested by Republicans and Democrats this year and urges our federal legislators also to study these plans carefully and to await the 1961 White House Conference before agreeing to a solution which may have political sincerity only.

At a recent American Medical Association conference in April 1960, it was pointed out that the federal government's action and responsibility is frequently the result of community and state default. Every one of us in the field of medicine has a responsibility to stimulate and support the organization of local community committees on aging. The American Medical Association has pointed out the necessity for medical leadership. Medical voice is present in most state committees on aging. In Maine there is only one medical representative on the Governor's Committee on Aging. This Governor's Committee has, wisely I believe, selected the Northeast Research Foundation to conduct Maine's study on aging to be sent to the White House Conference. Early this fall a Governor's Conference on Aging will be held at which and following which the Committee on Aging will forward its recommendations to the White House Conference. Such Governor's conferences have been held since 1954 or 1955 in the State of Maine and are characterized usually by the lack of medical men in attendance. The people in attendance are predominantly the social workers who are a biased group of people by their very work. They see the indigent of society and their needs, and this group is predominantly for Forand type of legislation.

We urge strongly that everyone possible make an attempt to keep abreast of the many bills proposed to solve the health problems of the aged. Read the literature from the American Medical Association. Come to the Governor's Conference on Aging. We ask the Medical Association to send notice to all of us of the dates of this conference and its place. There will be many small groups working, group discussions, at this conference, and your voice is needed. There is a task to do.

It is currently felt by the American Medical Association that should a Democratic bill of Forand type pass the legislature this year the president will veto it and it will be unlikely to pass over the president's veto. A Republican bill, it is felt, will be defeated by the Democratic Congress. It is therefore expected that we will come into the White House Conference without actual legislation. It is hoped so.

This, however, leaves us with a real responsibility in prep-



aration for the White House Conference. It is important to get adequate representation on the state delegations to the White House Conference. These are to be appointed by the state governors. New York, for example, has already appointed its one hundred representatives. Eighty per cent of them are social workers. There are seven physicians only. It is easy to see in which way this delegation will be pointed.

We feel that any attempt to pack the Maine delegation with physicians or any of the state delegations with physicians will be in bad taste. We do have strong allies however. The National Association of Manufacturers, the senior and junior Chambers of Commerce, the American Retail Federation, the American Farm Bureaus, the National Grange, and Dental Association, the Hospital Association, the American Nursing Home Association, the National Association of Retired Teachers, and newspapers in general also take the point of view about compulsory health insurance which we ourselves uphold, that is, they are against it. The Maine Medical Association has sent a letter to each of these groups in the state asking if they are aware of what compulsory health insurance with Social Security tax increase will mean to them and pointing out the need to study the problem carefully prior to adequate solution. We have asked them to contact the Governor for representation as delegates to the White House Conference. We hope thereby that Maine's delegation will represent a wider viewpoint than that of New York.

We have urged the formation of a Joint Council in the State of Maine and have asked Mr. George Nilson, field representative of the Bingham Associates with office in Augusta, to arrange for a preliminary meeting. Howard Wells of the American Medical Association staff has expressed a willingness to help us form this Joint Council. The initial steps have been taken.

Our able Executive Director, Dr. Hanley, has already sent to the Governor the names of physicians interested in the problems of the aged in the hope that he will select a representative number of our own men as delegates to the White House Conference.

We urge that you give talks to your local clubs — Kiwanis, Rotary, etc. If you do not feel you have the information, the Committee on Aging will act as a speakers' bureau and one of our members will be willing to talk to any group.

We intend to have a careful review of the Northeast Research Foundation report by the state committee and make comments to be sent to the Governor's Committee on Aging. After the initial work of the Governor's Committee on Aging in preparation of the White House Conference Report has been completed, we have asked for a joint meeting with the Governor's Committee on Aging.

### Poison Control

ROBERT L. OHLER, M.D.\*

I have been asked to discuss a proposed poison control program for the State of Maine. This assignment originated at a meeting held in Dr. Fisher's office in Augusta at which were present Dr. Fisher and two of the district health officers representing the Department of Health and Welfare, Dr. Hanley representing the Maine Medical Association, Mr. Henry L. Verhulst of the National Clearinghouse for Poison Control Centers of the United States, Dr. Irving Goodof of Thayer Hospital, Waterville, and myself representing the Veterans Administration. The meeting was called to discuss the establishment of a Poison Control Center or Poison Information Center in the State of Maine. As is well known, the Poison Control Center presently serving this area is at the Children's Hospital in Boston. For various reasons it has seemed desirable to establish a center within our own State.

I should like to review briefly the history of the poison control program in the United States. The magnitude of the

problem is indicated by this fact that in 1957 accidental ingestion of poison caused the death of 1,390 people, approximately 450 of which were children under five years of age. It is estimated that there are probably 500 ingestions of poison for each death, so that this is obviously a significant medical problem. The American Medical Association estimated that there are approximately 250,000 potentially toxic trade name products on the consumer market, some of which bear labels containing ingredient information. This is required by law in the case of drugs, pesticides, and products containing caustics. However, cleaning fluid, bleach, soaps, detergents, polishes, paints, and a host of other household products are not required to be labeled with the ingredient information except in a few States. Obviously the physician cannot be familiar with the composition of all these unlabeled products. Information concerning the pathophysiologic effects are not readily available and new products, both drug and non-drug, are appearing on the market with such rapidity that no physician could be expected to keep up with this information.

In 1952 the American Academy of Pediatrics in a survey found that acute poisonings were the cause of 51% of all child accidents. They realized the need for a center which physicians can call in cases of poisonings by a product whose constituents were unknown. Under the auspices of the Illinois Chapter of the American Academy of Pediatrics a pilot project called a Poison Control Center was initiated in Chicago with the cooperation of the pediatric services of the major hospitals, the Health Department, the State and other local authorities. This first center was under the direction of Dr. Edward Press, and through his guidance and with the support of the American Academy of Pediatrics similar centers were soon established throughout the country. These centers are usually associated with a medical school or a large hospital. Often the center is sponsored by a medical society with public health assistance at either the local or State level. Equipped with a laboratory, library, house staff, and faculty, the centers give information on a 24-hour basis. Hospitals with less complete facilities act as treatment centers, giving 24-hour treatment but telephoning the information centers when necessary. Thus, ingredients, toxicity information on almost any toxic or potentially toxic product is available to physicians. The centers also keep abreast of current methods of therapy of poisoning. Such information is available to physicians at all times. First aid information is given to non-medical people who call, with the advice to call their physician or to go to the local hospital.

Because of the increasing number of Poison Control Centers and because of the growing number of products placed in consumer circulation, coordination of the activities of the Poison Control Centers seemed necessary, and accordingly in 1956 at a meeting of the American Public Health Association a recommendation was made that a National Clearinghouse for Poison Control Centers be set up by the United States Department of Health, Education and Welfare. This was designated as a function of the United States Public Health Service. The function of the National Clearinghouse is to collect information on poisons and potential poisons from all sources of information including manufacturers of the materials under question in order to keep abreast of new products and changes in composition of existing products. An indexed card file is distributed to those local centers designated by the State health departments. The cards are indexed by the trade name and contain information on the composition, concentration, and lethal dose of each specific agent, as well as symptoms and treatment. Approximately 100 centers are now submitting reports of calls regarding poisonings to the National Clearinghouse. An analysis of some 15,000 reports of poisoning accidents between 1954 and 1958 from 59 centers in 20 States has indicated that about 90% involve children under five. Aspirin, largely the baby type, accounted for half of the internal group.

The Clearinghouse has adopted the following definitions for classifying local centers:

1. *Poison Information Center.* A poison information center is concerned solely with the collecting and disseminating of information concerning all aspects of poisoning. Such centers are usually located in large health departments or university medical or pharmacy schools. They do not have treatment facilities. These centers aid State and local health departments in preparation of educational material on prevention.

2. *Poison Control Centers.* This is a unit combining a poison information center and a treatment center.

3. *Poison Treatment Center.* This is usually located in a hospital emergency room and maintains a small reference service from which limited information can be furnished to local physicians for many common substances, and it is in touch with a poison information or control center. Necessary antidotes and equipment are readily available for emergency treatment of poisoning. The treatment center also serves as a nucleus for the development of a community program to educate parents on the need for prevention.

The poison control program as currently visualized is an enterprise requiring the cooperation of the medical society, hospital staffs, in many States the pharmaceutical association, the State department of health, and the United States Public Health Service. The furnishing of information, treatment, and preventive education are of equal importance.

The following suggestion for a poison control program in Maine is presented as requested at the preliminary meeting in Dr. Fisher's office:

1. *Poison Information.* A Poison Information Center should be set up in such a location that 24-hour professional coverage is available. A responsible staff member of the institution should undertake the direction of the information service. All poison information obtainable from the National Clearinghouse reference books, and other sources should be kept currently indexed. Calls should be accepted by either a pharmacist or a physician at all times, with the physician having the ultimate responsibility. The Veterans Administration at Togus is willing to provide this service if this is considered a desirable arrangement by the Maine Medical Association and others involved.

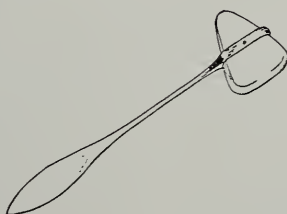
2. *Poison Treatment Centers.* These should be located in all of the larger hospitals in the State completely stocked with an approved list of antidotes recommended by the National Clearinghouse, as well as other necessary equipment in an emergency room. This should be under the direction of a staff member or a committee, so that prompt emergency therapy for poisoning is available within a reasonable distance of any person in the State on a 24-hour basis. Reference books should be available, and the entire staff should be kept informed of its emergency responsibilities regarding poisoning. Whenever necessary the poison information center should be called for information. The program should be given repeated publicity in the lay and medical press.

3. *Public Education Program.* A number of publications, films, and other material is available. It would seem that this facet of the poison control program, the importance of which must never be underestimated, might best be planned and executed by a committee of the Maine Medical Association in cooperation with the State Department of Health and Welfare and perhaps other interested bodies. In some areas the pharmaceutical associations have contributed greatly to educational work in this regard.

It is my suggestion that a Poison Control Committee be set up by the State Medical Association to advise and coordinate the activities under the poison control program and to be particularly responsible for the establishment with the cooperation of the United States Public Health Service and the Department of Health and Welfare and other interested organizations of a poison prevention educational campaign on a continuing basis.

As a representative of the Veterans Administration as well as a member of the Maine Medical Association I should like to state that the Veterans Administration is purely interested in cooperating with this program in any way that it is felt most desirable. If, because of our location and the fact that we have 24-hour physician coverage, it is felt that we can best be of service by maintaining the poison information center, we shall be happy to do so.

\*This report was approved by and the recommendations contained therein were adopted by the House of Delegates of the Maine Medical Association on June 19, 1960.





# Institutions Licensed By The State Of Maine Department Of Health And Welfare

## For: 1. Adoption

## 2. Child Care

## 3. Miscellaneous Agencies

### 1. Adoption Agencies

- A. Androscoggin County  
Lewiston-Auburn Catholic Bureau of Social Services  
197 Lisbon Street, Lewiston, Maine

- B. Aroostook County  
New England Home for Little Wanderers  
Caribou, Maine

- C. Cumberland County  
1. Child and Family Services  
187 Middle Street, Portland, Maine  
2. Department of Health and Welfare  
178 Middle Street, Portland, Maine

- D. Kennebec County  
1. Maine Children's Home Society  
335 Water Street, Augusta, Maine  
2. New England Home for Little Wanderers  
237 Main Street, Waterville, Maine

- E. Penobscot County  
1. Family and Child Services of Bangor, Inc.  
36 First Street, Bangor, Maine  
2. Good Samaritan Home Association  
276 State Street, Bangor, Maine

- F. York County  
1. St. Andre's Home  
407 Pool Road, Biddeford, Maine  
2. York County Children's Aid Society  
258 Main Street, Saco, Maine

### 2. Child Care Agencies

- A. Androscoggin County  
1. Lewiston-Auburn Children's Home  
24 Madison Street, Auburn, Maine  
2. St. Joseph's Orphanage  
146-152 Campus Avenue, Lewiston, Maine  
3. Healy Asylum, 81 Ash Street, Lewiston, Maine

### B. Cumberland County

1. Opportunity Farm  
New Gloucester, Maine  
2. Holy Innocents Home  
30 Mellen Street, Portland, Maine  
3. Maine Home for Boys  
1393 Forest Avenue, Portland, Maine  
4. St. Elizabeth's Home  
87 High Street, Portland, Maine  
5. St. Louis Home and School for Boys  
West Scarborough, Maine

### C. Kennebec County

1. Goodwill Home Association  
Hinckley, Maine

### D. Penobscot County

1. Bangor Children's Home  
218 Ohio Street, Bangor, Maine  
2. St. Michaels Home  
1066 Kenduskeag Avenue, Bangor, Maine

### 3. Miscellaneous Agencies

#### A. Cumberland County

1. Children's Heart Work Society of Maine  
95 St. Lawrence Street, Portland, Maine  
An agency which places children in foster homes for boarding purposes.  
2. Temporary Home for Women and Children  
22 Bramhall Street, Portland, Maine  
An agency whose services include case work to unmarried parents and foster home placement of unmarried mothers.

#### B. York County

- Sweetser Children's Home  
50 Moody Street, Saco, Maine  
A study treatment home for children between the ages of 5 and 18. It is licensed to care for 50 children.

NOTE: This list was compiled by George W. Hallett, Jr., M.D., of Portland, Chairman of the Committee on Maternal and Child Welfare. If you know of any institutions not on this list, send the name and address to . . .

The Journal of The Maine Medical Association  
P. O. Box 637  
Brunswick, Maine

## In Memoriam

### *Androscoggin County*

Leopold O. Roy, M.D.	Lewiston
----------------------	----------

### *Aroostook County*

Lloyd H. Berrie, M.D.	Caribou
Albert H. Damon, M.D.	Limestone

### *Cumberland County*

F. Donald Dorsey, M.D.	Portland
James G. S. Jamieson, M.D.	Winchester, England
James M. Parker, M.D.	Portland
M. Carroll Webber, M.D.	Portland

### *Franklin County*

Cecil F. Thompson, M.D.	Phillips
Verdeil O. White, M.D.	Springvale

### *Hancock County*

Charles C. Knowlton, M.D.	Ellsworth
---------------------------	-----------

### *Kennebec County*

Moses F. Lubell, M.D.	Waterville
Edmund P. Williams, M.D.	Oakland

### *Knox County*

Robert L. Allen, M.D.	Rockland
-----------------------	----------

### *Lincoln-Sagadahoc County*

Arthur H. Sampson, M.D.	Damariscotta
-------------------------	--------------

### *Penobscot County*

Joseph Lezberg, M.D.	Bangor
Peter S. Skinner, M.D.	Bangor
Louis L. Theriault, M.D.	Old Town
LaForest J. Wright, M.D.	Corinna

### *Somerset County*

Walter S. Stinchfield, M.D.	Skowhegan
-----------------------------	-----------





DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

# Rehabilitation — A Community Challenge\*

W. SCOTT ALLAN\*\*

Authorities in many fields, and indeed the public at large, are becoming increasingly aware of the pressing need for the control of disability, both as to its extent and cost. The growth of modern surgical techniques and drug therapy has resulted in greatly increased life expectancy following serious injury or disease. The prolonged disability which now becomes a possibility as the result of such medical advances can result in staggering costs. Medical and surgical fees, as well as hospital costs have greatly increased in the past ten years and there is no significant indication that this trend has ended. In order to mitigate the high loss costs of present-day injuries and illnesses in industry, it is important that seriously injured people receive the very best of hospital care and rehabilitative therapy. Providing these medical and rehabilitation services constitutes an investment in the reduction of disability and the restoration of the seriously handicapped to effective living.

Last October, Liberty Mutual Insurance Company sponsored a national symposium in Boston on this very subject. Key representatives from industry, insurance, medicine, labor, colleges and universities, the judiciary and legal profession, private foundations, professional and business associations were brought together for an intensive two-day meeting. This was undoubtedly the first time that a cross section of economic and social institutions gathered together for joint consideration of the disability problem and possible coordination of effort toward solution within the framework of the private enterprise system.

It was agreed that the extent and cost of disability have had tremendous impact upon the national economy and society. There has been a growing public demand for protection against the effects of illness and

injury, whether occupational or non-occupational. This has resulted in the need for better medical facilities and care, health insurance and other pre-payment plans, broadened social laws, negotiation of fringe benefits in industrial labor contracts, and many other developments. These changes have created an attitude of impatience toward the institutions and forces which are concerned with meeting the public demand.

The grave question has been raised as to whether such elements as industry, insurance, medicine, labor, judiciary and the public administrative agencies concerned can meet the challenges of more effective control of both the extent and cost of disability under the private enterprise system. Significant progress toward solution of many of the problems raised will necessitate a thoughtful exchange of ideas and a well integrated course of action.

The fact that accomplishments in rehabilitation have played an important role in American life, at least since World War II, does not mean however, that those concerned can sit smugly back in their seats and assume that everything is going well in this area and that there is little further challenge for people interested or active in rehabilitation. It is all too easy to assume that everything is fine and that most people who really need rehabilitation are getting it. Nothing could be much further from the truth of the matter.

In a study made by the Graduate School of Public Health at the University of Pittsburgh, in cooperation with the Pennsylvania Medical Society, physicians in that state were asked about the use of rehabilitation facilities. It was the opinion of the physicians replying to the questionnaire that almost two-thirds of their patients who needed to be referred to rehabilitation facilities had not been so referred. Forty-nine per cent of the physicians gave as a reason for non-referral, the unavailability of facilities, 42 per cent cited financial reasons and 9 per cent indicated resistance by the patient or family. A two-year study by the United Community Fund of San Francisco, involving questions put to 803

\* Abstracted from a speech by Mr. Allan before the Health Council of Maine, May 13, 1960.

\*\* Assistant Vice President and Manager, Medical Services Division Liberty Mutual Insurance Co., Boston, Mass.

practicing physicians, indicated that a considerable number of their patients required community services, many in the rehabilitation area, which the physicians themselves were not equipped to provide. In connection with rehabilitation specifically, the physicians cited the major barriers as being not enough awareness of available resources on the part of both physicians and the public, lack of financial resources to secure rehabilitation and poor awareness of the potential benefits of rehabilitation.

In the latest figures available from the Office of Vocational Rehabilitation, it is indicated that 80,700 disabled persons were rehabilitated during the year ending June 30, 1959, under the State-Federal program. This is a little more 6,700 cases above the previous year's record; yet when this figure is compared with the National Health Survey estimates of nearly five million people (outside of institutions) in the United States who have major disabilities, consisting of either physical or mental handicaps, which prevent them from working or carrying on their activities for part or all of the time, and, moreover, that at least two to three million adults are now idle because of disability who could become employable through proper rehabilitation and that about 250,000 more persons each year are becoming seriously disabled and in need of rehabilitation services, it is readily apparent that the real job of tackling definitive rehabilitation has hardly begun.

The accomplishments of those medical facilities and individual physicians having incorporated rehabilitation planning and programming into their handling of patients clearly demonstrate the benefits of rehabilitation in terms of the physical, mental, psychological and functional recovery of the individual.

Figures on referrals as cited by the Redkey report prepared in cooperation with The Conference of Rehabilitation Centers and Facilities and published by the Office of Vocational Rehabilitation show 35%, by far the largest number of referrals to centers coming from physicians. This is in comparison with 12% from State Divisions of Vocational Rehabilitation, 11% from insurance companies, 5% from welfare departments, 4% from other public agencies and 3% from other voluntary agencies. The attending physician is the pivot around which the medical handling of any case revolves and his cooperation is vital to the success of any rehabilitation program.

Some of the exciting and positive accomplishments which have taken place in recent years are:

1 — The rapid growth and spread of rehabilitation facilities, particularly in the last ten years, has brought the promise of good rehabilitation services to many more handicapped persons.

2 — The new surgical techniques, notably in heart surgery, the work done by Dr. Cooper in New York on Parkinson's disease, the recent reconnection of a severed leg to an injured California workman are but forerunners of things to come. Surgical advances of

this sort provide a greater opportunity to bring into play the forces of rehabilitation in situations which were formerly deemed hopeless.

3 — The impact of scientific and medical research on rehabilitation is just beginning to be appreciated. The formation of teams of microbiologists or biological chemists with physicians and surgeons to translate the discoveries of the laboratory to the clinical treatment of the patient, the discovery and utilization of new drugs for mental and emotional illness, and the opportunity which those discoveries offer for real advances in understanding the physical and mental construction of the human body, mean that the prevention of and the rehabilitation from injury or illness may be dealt with more effectively.

4 — The increasing concern of both government and voluntary agencies with rehabilitation as a realizable goal — the adaption of social laws, of agency administration, the use of both professional and volunteer help in these programs hold promise of finally developing the constructive concept of restoring rather than rewarding the handicapped.

5 — The interest of organized labor in rehabilitation through the negotiation of fringe benefits, which include provision for rehabilitation, may prove to be one of the most potent forces for social and economic gain in this area. It is interesting to note that last December the First National Institute on Rehabilitation and Labor Health Services was sponsored jointly by the Group Health Association of America and the National Rehabilitation Association in Atlantic City. It was the aim of this meeting to express the deep and common concern of both the Labor and Rehabilitation movements with the vast amount of unmet rehabilitation needs of disabled persons in communities throughout the nation, and to seek, through intensive discussion by leaders from both fields, the improvement of rehabilitation services to working people. Regional meetings are planned in 1960 to implement the program at the local level.

6 — The development of new types of team work in the common rehabilitation effort. The increased use of psychiatry in a practical way can lead the way toward breaking the barrier of emotional or psychological complications of disability which have so often proven a stumbling block to successful restoration. The article which appeared in the September, 1959 issue of Reader's Digest written about the Reverend Richard K. Young, Chaplain at North Carolina Baptist Hospital, revealed the significance of the partnership between medicine and religion in solving some of the reactions to disability which many workers in this field, both professional and lay, have recognized. The extension of comprehensive home care services on an experimental basis by certain of the leading hospitals, health departments and visiting nurse services opens the door for intensive home therapy as a substitute for enforced and continued institutional care.

7 — The changing individual reaction to the whole



concept of rehabilitation. The phrase "easing the burden of chronic illness or handicap" is seldom heard any more. Rather, there is the more positive approach of restoring and rehabilitating. There can be little doubt that rehabilitation offers the chance to participate in a grand design of reconstruction for both laymen and professional; further that it is personally one of the more inspiring and rewarding contributions anyone can make.

It is a salient fact that rehabilitation is not done only in hospitals, centers and other specialized facilities; it is a job for all the agencies in the community. Community agencies involved in social, welfare and recreation programs in the community must learn to adapt the handicapped into their programs and to provide their respective services for those who are disabled, as well as those who are not. All individuals, from professional person or technician to a next-door neighbor need to face up to the new challenge of removing disability as a cause of maladjustment, whether psychological, social or economic in character. This cannot be accomplished by government edict or more expansive national planning, it will best be done by individuals and private or public community agencies at the local level. In this sense, individual attitude becomes the "conscience" of the community.

In considering the broadening horizon of rehabilitation, there are tremendous challenges involved. Only the "surface has been scratched" in the development of community resources and individual responsibility for more effective rehabilitation programs. These challenges are not going to be met successfully merely by creating vast Federal or State programs, by building big impressive medical centers full of expensive and largely unused equipment, by a patronizing and "socialistic" approach to medical and therapeutic care. They will be met rather by the earnest, dedicated efforts of staff people and volunteers from many disciplines and interests, involved in simply organized practical community programs, which seek cooperatively to meet the needs of the community and its disabled people. The right program for Akron, Ohio might not be the suitable one for Bangor, Maine. Each community can solve its own problems best through its civic-minded people who know the problem and have a plan to meet it.

All, whether in public or private agencies and institutions, need to emerge from the cocoon of limited programs, small thinking and doing, lack of imagination and selfish agency interest into a world of concern for people and their real needs in the area of human disability.

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#### ACROSS THE DESK — *Continued from Page 246*

gives the nod to HR 12580 because its estimated cost to the United States is \$325 million yearly, it vests less responsibility and control in Federal government than do any of the other schemes, and "it is more responsive to need and less to political appeal than any of the others."

#### **Rise In Hospital Infections May Be "More Apparent Than Real"**

The widespread impression that the rate of postoperative infections in hospitals is increasing may be "more apparent than real," according to the *Journal of the American Medical Association*.

A study to determine the rate of infection following 3,089 operations for removal of part of the stomach (subtotal gastrectomies) performed at Massachusetts General Hospital, from 1932 to 1958, is reported in the current (July 9) issue of the *Journal*.

The study showed a 16 per cent incidence from 1932 through 1940, 4.1 per cent from 1941 through 1953, and 9.4 per cent from 1954 through 1958.

The increase in the latter five-year period is largely the consequence of a greater incidence of infection in the general hospital service, the *Journal* article said. In the same period, the incidence of infection in the private service was only 5.5 per cent.

Furthermore, the increase in infection in the general hospital service reflected a rise in the number of emergency subtotal gastrectomies performed, the article said.

A policy change in the administration of the emergency ward and mounting dissatisfaction with non-surgical treatment of massive stomach hemorrhages contributed to a far greater number of emergency subtotal gastrectomies than in former years, it said.

"The cumulative facts suggest that the patient and his disease may be the most significant variable to account for the rise in postoperative sepsis infection after subtotal gastrectomies in the past few years," the article concluded.


All of the factors that may be casually related to the recent increase in postoperative infection cannot be identified from this study, it said, but "the necessities of emergency surgery are a partial explanation."

Commenting editorially, the *Journal* said:

"If future studies from other institutions are in accord with these facts, it may be concluded that any rise in the risk of postoperative surgical sepsis is more apparent than real and that such impressions are based on the treatment of more debilitated patients by a greater variety of complex technical procedures."

The authors of the article are Drs. Benjamin A. Barnes, Glenn E. Behringer, Frank C. Wheelock, Earle W. Wilkins, and Oliver Cope, Boston.





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Clinical reports on Dartal: 1. Edisen, C. B., and Samuels, A. S.: A.M.A. Arch. Neurol. & Psychiat. 80:481 (Oct.) 1958.  
2. Ferrand, P. T.: Minnesota Med. 41:853 (Dec.) 1958.  
3. Mathews, F. P.: Am. J. Psychiat. 114:1034 (May) 1958.

SEARLE



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Secretary, Donald L. Anderson, M.D., Lewiston

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Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## OXFORD

June 15, 1960

The annual spring meeting of the Oxford County Medical Society was held at Bethel Inn on June 15, 1960.

A brief business meeting was held during which time William T. Seales, M.D., anesthesiologist of the Rumford Community Hospital, was elected to membership.

Following dinner, the members enjoyed an illustration talk by Dr. Walter G. Dixon on "Experiences in Trauma."

On July 1, 1960, Dr. Niles L. Perkins, Jr. started residency in Cardiology at the Maine Medical Center.

ALBERT P. ROYAL, JR., M.D.  
*Secretary*

## YORK

June 8, 1960

The monthly meeting of the York County Medical Society was held at Howard Johnson's Restaurant, Kennebunk, Maine on June 8, 1960. Twenty-one members were present.

The usual social hour was omitted as no arrangements could be made. A dinner preceded the business meeting which was called to order by the President, Dr. Robert F. Ficker. Dr. Ficker was called to the hospital and turned the meeting over to Dr. Carl E. Richards in the absence of the Vice-President.

As there was no guest speaker, a long and lively business meeting was conducted. All business concerning the State Convention was discussed and delegates instructed. A very lively discussion in regard to having the Secretary-Treasurer elected for not over three years was carried on but no definite action taken.

CHARLES W. KINGHORN, M.D.  
*Secretary*

## New Members

## ANDROSCOGGIN

Joseph M. Mendes, M.D., 5 School Street, Lisbon Falls  
Ronald S. Potts, M.D., Central Maine General Hospital, Lewiston

## CUMBERLAND

Marion W. Westermeyer, M.D., 32 Federal Street, Brunswick  
(by transfer from the Lincoln-Sagadahoc County Medical Society)

## OXFORD

William T. Seales, M.D., Rumford Community Hospital, Rumford

## Deceased

## AROOSTOOK

Eugene H. Doble, M.D., 6 Church Street, Presque Isle,  
June 29, 1960

## CUMBERLAND

Frank E. Carmichael, M.D., 72 Deering Street, Portland, June 19, 1960

# Announcements

## University of Vermont College of Medicine

The Vermont Heart Association, in cooperation with the University of Vermont College of Medicine, will sponsor a Seminar on "Atrial Arrhythmias."

The Seminar will be held in Burlington, Vermont, on September 17 and 18, 1960. Among the guest speakers planning to participate are Drs. S. Bellet, B. F. Hoffman, W. C. Holland, H. D. Levine, and D. Scherf.

Further information can be obtained from Eugene Lepeschkin, MD., Professor of Experimental Medicine, University of Vermont College of Medicine, Burlington, Vermont.

## United States Civil Defense Council Conference

The ninth United States Civil Defense Council Conference will be held September 21 and 22, 1960 at the Leamington Hotel in Minneapolis, Minnesota.

Topics to be discussed on September 21 will include: "The Chemical Warfare Threat," "The Biological Warfare Threat," "Civilian Medical Problems," "Emergency Health Service Concept," and "Community Emergency Health Program." On September 22 Work Shop Sessions will include the following topics: "Chemical Warfare Defense Workshop," Biological Warfare Defense Workshop," and "Radiological Warfare Defense Workshop."

For further information write to Carroll P. Hungate, M.D., Chairman, 535 Argyle Building, Kansas City 6, Missouri.

## Heart Association's Scientific Sessions October 21-23, St. Louis

The American Heart Association's 33rd annual Scientific Sessions, to be held at Kiel Auditorium, St. Louis, from Friday, October 21 through Sunday, October 23, will present six sessions of broad clinical interest to run concurrently with the investigative scientific programs.

The six clinical programs, stressing the application of findings in cardio-vascular research, will be proportioned among symposia, panels, lectures of general interest and papers on recent results of research. As in the past, these sessions have been classified by the American Academy of General Practice as acceptable for Category II credit for Academy members.

## Course in Postgraduate Gastroenterology

The American College of Gastroenterology announces that its Annual Course in Postgraduate Gastroenterology will be given at the Bellevue-Stratford Hotel in Philadelphia, Pennsylvania on October 27, 28, 29, 1960.

The faculty for the Course will be drawn from the medical schools in and around Philadelphia. The subject matter to be covered in the Course, from a medical as well as surgical viewpoint, will be essentially, the advances in diagnosis and treatment of gastrointestinal diseases and a comprehensive discussion of diseases of the mouth, esophagus, stomach, pancreas,

spleen, liver and gallbladder, colon and rectum. There will be a clinical session at the Albert Einstein Medical Center and again this year, in addition to individual papers, there will be panel discussions and CPC's of interest.

For further information and enrollment write to the American College of Gastroenterology, 33 West 60th Street, New York 23, N.Y.

## Course in Laryngology and Bronchoesophagology

The Department of Otolaryngology, University of Illinois College of Medicine, will conduct a postgraduate course in Laryngology and Bronchoesophagology from October 17 through October 29, 1960, under the direction of Paul H. Holinger, M.D.

Registration will be limited to fifteen physicians who will receive instruction by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested registrants will please write directly to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

## Pakistan Seeks Eminent Medical Speakers

The Pakistan Medical Association has issued a cordial invitation to the member associations of the world to designate representatives of their organization to present papers at the Sixth All Pakistan Medical Conference to be held in Karachi in November 1960. The exact dates of the Conference will be announced in the near future. The Pakistan Medical Association will provide board and lodging for the medical speakers while they are in Karachi.

The names of delegates to the Conference and the titles of the papers they wish to present should be addressed to Dr. N. A. Ansari, Secretary, VIth All Pakistan Conference, PMA House, Garden Road, Karachi 3, Pakistan.

## American Urological Association Offers Urology Award

The American Urological Association offers an annual award of \$1000 (first prize \$500, second prize \$300, and third prize \$200) for essays on the result of some clinical or laboratory research in Urology. Competition is limited to Urologists who have been graduated not more than ten years, and to hospital internes and residents doing research work in Urology.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Hotel Biltmore, Los Angeles, California, May 22 through 25, 1961.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before December 1, 1960.



**Department Of Health And Welfare  
Division Of Maternal And Child Health  
Including Services For Crippled Children**

**Orthopedic Clinics**

Portland — Maine Medical Center  
9:00 a.m.: July 11, Aug. 8, Sept. 12  
Lewiston — Central Maine General Hospital  
9:00 a.m.: July 15, Aug. 19, Sept. 16  
Rumford — Community Hospital  
1:30 p.m.: Sept. 21  
Rockland — Knox County Hospital  
1:30 p.m.: Aug. 18  
Machias — Washington County Normal School  
1:30 p.m.: July 13  
Presque Isle — Northern Maine Sanatorium  
9:00 a.m. and 12:30 p.m.: July 13, Sept. 13  
Houlton — Aroostook General Hospital  
9:00 a.m.: July 12  
Fort Kent — Peoples Benevolent Hospital  
10:00 a.m.: Sept. 14  
Bangor — Eastern Maine General Hospital  
1:00 p.m.: July 28, Sept. 22  
(Several will be two-session clinics)  
Augusta — Augusta General Hospital  
1:00 p.m.: Aug. 25

**Cleft Palate Evaluation Clinics**

Portland — Maine Medical Center  
10:00 a.m.: Aug. 9

**Clinics For Mentally Retarded  
Pre-School Children**

Waterville — Thayer Hospital  
9:00 a.m.: July 6, 20, Aug. 3, 17, 31, Sept. 7, 21

**Cardiac Clinics**

Portland — Maine Medical Center  
9:00 a.m.: Every Friday (Holidays Excepted)  
Bangor — Eastern Maine General Hospital  
9:00 a.m.: July 8, 29, Aug. 12, 26, Sept. 9, 23

**Pediatric Clinics**

Bangor — Eastern Maine General Hospital  
1:30 p.m.: July 29, Aug. 26, Sept. 23  
Fort Kent — Peoples Benevolent Hospital  
10:00 a.m.: July 27  
Presque Isle — Northern Maine Sanatorium  
1:30 p.m.: Sept. 28  
Waterville — Thayer Hospital  
1:30 p.m.: July 5, Aug. 2, Sept. 6

**Adolescent Clinics**

Portland — Maine Medical Center  
1:00 p.m.: July 27, Aug. 24, Sept. 28

**FOR SALE**

Residence with office and waiting room. Portland suburbs: good street; large lot; handy to schools, churches, and stores. Modern kitchen; oil automatic heat with hot water. Excellent condition. Contact DeForest Weeks, M.D., 158 Pleasant Avenue, Portland 5, Maine.

Profexray Fluoroscopy Unit — 25 MA — for office use. Excellent condition. Accessories included. \$500 or best offer. Contact Laban W. Leiter, M.D., 175 Vaughan Street, Portland. SP 3-0983.

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# The Journal of the Maine Medical Association

Volume Fifty-One

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Number 8

## Maine General Hospital An Historical Sketch

GEORGE O. CUMMINGS, M.D.\*

In June 1867 at the annual meeting of the Maine Medical Association, Dr. Tewksbury, in his presidential address called the attention of the public to the necessity of establishing a general hospital in Portland. At that time in the entire state of Maine, there were only the United States Marine Hospital which cared for sailors and the State Asylum for the insane at Augusta, together with so-called hospitals connected with alms houses. He appointed Dr. John T. Gilman of Portland chairman of a committee to investigate the problem.

Let us consider for a space the state of affairs at this period. The Civil War had come to an end with the surrender of General Lee and the Confederate Army of Virginia at Appomatox. The nation had been cast into mourning by the assassination of Abraham Lincoln. The great fire of 1866 had leveled the business center of Portland and destroyed some 1500 homes. Maine had about 700,000 citizens and the city of Portland, in the vicinity of 35,000.

It was not until 1868 that Portland was to have Sebago water. Up to this time rain water was collected from house roofs in cisterns in the basement. Wells were still used and water was obtained from a number of large springs. There was one near Monument Square, one near Spring and South Streets and another on Bramhall's Hill. Sewers were primitive, "water closets" hardly existed, out houses and vaults were used. The milk man brought his milk in a two gallon can and poured out the pint or quart into the

house holder's own container. No one thought of water or milk borne diseases. Bacteriology was still in the future.

The Eastern and Western Divisions, now the Boston and Maine Railroad, left from a station on Commercial Street near the end of Portland bridge as did the Maine Central and Portland and Ogdensburg. The Portland and Rochester station was at the foot of Preble Street. The Grand Trunk station was at the foot of India Street.

Portland was a busy seaport. The city directory of 1869 carries long lists of vessels owned there. Transatlantic freight was still largely carried by square rigged vessels. Steamers were beginning to appear but it was a question whether they were primarily power driven or whether their engines were auxiliary to the sail they all carried. Much coast-wise freight was carried by sail but steam packet service between Portland and Boston and New York was beginning to flourish.

A good workman earned from a dollar to a dollar and a half a day. Food was cheap. Game, sea fowl and venison could be had in the markets at all seasons.

Heating was still largely by wood stoves. Coal furnaces were beginning to be used. Coal oil was replacing whale oil and candles. Illuminating gas was used in the better homes. Major streets were paved with stone. Minor streets had cobble stones or gravel. Men's clothes were mostly all tailor made. Long underwear was universal winter apparel. Boots tended to be heavy. Sidewalks on the major streets were brick or wood and on the minor streets gravel or dirt. Mud time meant something. Horses were largely

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used in the city but oxen were still the prime movers for really heavy work. With the numbers of horses English sparrows flourished.

In February 1868 the Maine General Hospital was incorporated and in 1869 the charter was accepted by the incorporators. In 1870, in response to a petition signed by more than 2,000 of the most prominent men in various parts of the State, the Legislature, at its session passed a resolve, by one provision of which, the lot on Bramhall's Hill, Portland, the site of the State Arsenal was deeded to the hospital with the condition that the grant would not take effect until private subscriptions to the amount of \$20,000.00 were secured. It also provided that the state should give the hospital \$10,000.00 in money when \$30,000.00 had been expended in the construction of a building and an additional \$10,000.00 when \$50,000.00 in all had been expended.

The City of Portland generously gave all the land it owned between Arsenal and Congress Streets.

In 1871 the following officers were chosen, President, John B. Brown; Directors, John T. Gilman, Phineas Barnes, Andrew Spring, A. W. H. Clapp, Horatio Jose, William Deering, Samuel F. Hersey, Joseph H. Williams, George Walker; Treasurer, James T. Cobb; Secretary, Frederick Henry Gerrish. The vacancy occasioned by the death of Mr. Barnes was filled by the election of Israil Washburn Jr.

It seems strange at this later day that these men, who were among the most prominent of the citizens of Portland in the eighteen sixties and seventies, have been so thoroughly forgotten, and equally odd that only one of them, Mr. Brown, and but one of the original staff of the hospital, Dr. Dana, left descendants to carry on their family names.

It is probable that most of the directors made their money and gained prominence through trade in rum, molasses and tobacco with the West Indies. There were relatively few Portlanders who were large owners of deep water shipping. The lumber barons lived in Augusta and Bangor.

Times were stirring. The Portland and Oxford Canal had been built and was beginning its decline due to the increasing development and use of railroads. Portland then as now was a wholesale and retail center and not a manufacturing community.

J. B. Brown came to Portland in the early eighteen hundreds, and started a grocery store with the money he saved working as a clerk. Among other goods, was so'd rum and molasses. In due course of time, they owned sugar houses and made an immense amount of money. The warehouses in the vicinity of Gorham's corner, Center and Fore Streets, were built as part of the sugar and molasses business. Brown built an impressive mansion with landscaped grounds on the Western Promenade extending from just beyond Pine to Bowdoin and back to Vaughan Streets. He left many descendants and a large amount of real

estate which has been well managed. (Herbert Brown, who was president of the Maine General Hospital Board in the nineteen twenties was of an entirely different family.)

Dr. John T. Gilman was a physician who had his office on the north west corner of Free and Center Streets. Andrew Spring lived in one of the two "Spring Houses" on Danforth Street, near the foot of Emery. A. W. H. Clapp had a mansion that stood on the corner of Congress and Elm. His money was made in the West India trade. Horatio Jose had many interests, real estate, the Portland Ogsdenburg railroad, etc. He lived in the building that now houses the Cumberland Club. William Deering lived in the mansion where the University of Maine, Portland now is. Samuel Hersey lived in the big square house near the Waynflete School. I have no information concerning Phineas Barnes, Joseph H. Williams, or George Walker. James T. McCobb was an attorney. Israel Washburn Jr. is of interest as three brothers of this family were in the House of Representatives in Washington at the same time representing three different states.

On October 22, 1874, the eastern pavillion of the hospital was finished and dedicated and on November 9, 1874, the first patient admitted.

The original Staff was divided into, the consulting Staff: John T. Gilman, M.D., William Wood, M.D., Hiram H. Hill, M.D., Charles E. Swan, M.D., Theodore H. Jewett, M.D., Resident Physician: Charles O. Hunt, M.D. Visiting Physicians: Israel T. Dana, M.D., Horatio N. Small, M.D., Augustus S. Thayer, M.D., William Warren Greene, M.D., Seth C. Gordon, M.D., Stephen H. Weeks, M.D. Pathologist: Frederick Henry Gerrish, M.D. House Pupils: Erastus E. Holt, M.D. and George W. Libby, M.D.

I know little about the physicians on the Consulting Staff.

Dr. Charles O. Hunt, the Resident Physician was meticulous in all things. He taught Pharmacology in the Medical School and was the father of Dr. Charles O. Hunt who also taught Pharmacology, was on the Surgical Staff, and in later years was a favorite consultant of the Industrial Accident Commission.

Dr. Israel Dana taught "Theory and Practice." He was very suave. He lived in a house on the corner of State and Pine Streets. He had a son who was a physician who died as a young man, but practiced long enough to have a patient name a mentally deficient boy after him, who by the way, had to do with many amusing incidents in my own boyhood.

Dr. Horatio Small lived and had his office in a square brick house with a nice yard with a fountain with green iron frogs around it, at the corner across Park Street from the Lafayette Hotel.

Dr. Augustus Thayer had a house and office on Free Street opposite the Elk's Club. He was a very studious and careful physician who lived to be over ninety and always wore a white carnation in his lapel in honor

of his mother. I know nothing of Dr. George F. French.

Dr. Samuel Tewksbury at one time had his house and office on Brown Street and then in a large dark brown brick house with a stable attached on Free Street across from Cotton, afterward occupied by Dr. Charles Bray. Dr. Tewksbury was a man of strong character.

Dr. Seth C. Gordon was a bachelor. He taught Gynecology and served with one of the Maine Regiments throughout the Civil War as surgeon.

Dr. Stephen Weeks, at times, taught Theory and Practice, Anatomy and Surgery in the Medical School. He was serious, lacking a sense of humor, kindly and acquisitive. He read anatomy for a pastime. He was the leading surgeon in Portland for years and made a great deal of money. He lived at the corner of State and Congress Streets in a house now used as a nurses' home by the Mercy Hospital.

Dr. William Warren Greene had at times been the professor of Anatomy and Surgery. He was said to be an accomplished surgeon. He died on a trip to Europe.

Dr. Frederick Henry Gerrish was an intellectual superior. He was professor of Anatomy and later Surgery in the Medical School. He was the author of *An American Text Book of Anatomy*. He was a man of strong likes and dislikes. He never spoke to Dr. Gordon although they belonged to a small medical club of twelve. He did not approve of Dr. E. E. Holt who established the Eye and Ear Infirmary and he cordially hated Dr. Edville Abbott who initiated the Children's Hospital. This hate was returned with interest, and when Gerrish was an older man, Abbott appeared against him in a law suit involving a fracture.

Then as now physicians tended to have their offices in localities, some in the vicinity of Lincoln Park, which was at that era, a preferred residential area. Many had offices on Brown Street and Free Street. A little later they moved to Congress Street. In the mid-eighties, my father moved his office to 699 Congress Street, a little above Longfellow Square, and wondered if he hadn't moved too far up town.

In 1875 the first year of the hospitals operation, 114 patients were cared for at a cost per patient per week of \$17.41. The prices of private ward beds or rooms ranged from \$2.00 to \$5.00 a day. There were two women employed as day nurses, one at \$18.00 a month and the other at \$15.00 a month. The woman employed as a night nurse received \$20.00 a month without board. At the same time, the day male nurse received \$25.00 a month while the male night nurse was paid \$15.00 a month.

In February 1876, the central building was finished. The offices were on the lower floor. The superintendent, his family and the matron had living quarters on the second floor. On the lower floor of the eastern pavillion two adjoining rooms were used as operating rooms and the other rooms to house the hospital domestics as they were called.

In regard to the buildings themselves, committees of the Board of Directors with the architect, Mr. Fassett (who by the way, built for himself the double house on Pine Street opposite Thomas Street, and in doing so, embarrassed himself financially) made trips to Boston, New York and other cities to be sure that the proposed plans were the last word in hospital construction. The original buildings were constructed before contamination, infection and bacteriology were well understood and the high ceilings were to prevent the baneful effects of "vitiating air." The chimnies originally on the sides of the buildings were for ventilation as were the fireplaces at the four corners of the large wards.

In 1877 the Ladies Visiting and Advisory Board was formed. An organization which was to be of great value to the institution.

In 1878 gas was discontinued for lighting the hospital and kerosene was substituted as it was considered that it would be cheaper. It was felt that "all danger from the use of oil is obviated by the use of wooden lamps and a superior quality of oil."

In 1879 an elevator was installed in the central building, prior to this, patients had, at times, been carried up and down from the third and fourth floors. A telephone was installed. The first tonsillectomy was performed, and it was a number of years before this operation was again mentioned.

In 1880 a total of 263 patients were admitted. The cost was \$10.99 per patient per week. There were 130 surgical operations. No abdominal sections were performed.

In 1882 a children's ward of six beds was opened. In this same year the total number of patients were 443. Average cost per week per patient \$11.30. There were performed 213 surgical operations. Dr. James Spaulding was appointed Ophthalmologist and the first special service established. (An excellent picture of him is in the hospital library. He was a fine old gentleman, a graduate of Dartmouth College and Harvard Medical School. He lost his hearing while in medical school and was almost stone deaf. It bothered him but little. He asked questions, answered them himself and went merrily along. He was a communicant of St. Luke's Episcopal Cathedral and took a prayer book in a different language each Sunday. He read Latin, Greek, French, German and Italian. His home and office was just above the Public Library.)

In 1884 the construction of a surgical building was commenced and the kitchen and laundry enlarged.

In 1885 the new surgical amphitheatre was first used in January. I have never been able to find a picture of this building. It was connected with the east wing by means of a ramp, about where the chapel is at present, the lower floor carried a tunnel to the Nurses' Home. It stood about where the rear of the 1929 pavillion stands. There were four rooms on the ground floor that were used at times for nurses' dormi-



ories; out patient clinic, class room, orderlies rooms and storerooms. The amphitheatre could seat 220 persons. It was over 35 feet from the floor to the ceiling. There was a space under it on each side that was used for isolation rooms and for the orthopedic service when it was established. There was also a small operating room, an anesthetizing room, bath and toilet. On the third floor at the front of the building, up a long flight of stairs was a "pathologists' cabinet."

In the same year the school of nursing was established under the supervision of Mrs. Alida M. D. Leese. Ten students were admitted for training and eight were retained.

In 1887 in February the first class of seven was graduated from the nursing school.

In 1888 a new boiler house was started, it was finished in August 1891.

In 1890 the western pavillion of the older hospital and superintendent's house was built and the laundry enlarged. Total number of patients this year was 634. The cost per patient per week was \$10.74 and the number of operations 336.

There were 22 abdominal sections, 15 of which were ovariectomies. There was one gastrotomy for the removal of an esophageal foreign body. There were 22 operations for hemorrhoids but only two herniotomies. Of the 48 procedures for cancer, 20 were for cancer of the breast. There were 30 perineoraphies, 34 tracheloraphies, 20 uterine currettings and 17 sequestrotomies.

In 1892 five appendectomies were performed. The first done at the Maine General Hospital. The symptom complex of appendicitis had been described by Fitz of Boston only five years before.

Electric lights were installed this year in parts of the hospital to supplant the coal oil lamps. However, it would not be until 1925 or 26 that electricity would be freely available throughout the hospital at night although it was turned off in daylight hours in the engine room where it was generated.

Economy was economy in those years. It was felt that water could be obtained more cheaply from a driven well than from the Portland Water Company. A six inch well 405 feet deep was drilled that supplied 20,000 gallons of water a day. This was used for the next few years.

In 1895 the throat and nose service was instituted with Dr. Irving Kimball as surgeon.

Total number of patients 1060. Cost per patient per week had risen to \$12.66. Number of operations 734.

In 1899 the first mastoid operation was performed at the Maine General Hospital.

In October of this year Professor Hutchins of Bowdoin made an x-ray tube that was successfully used at the Maine General Hospital. Roentgen had discovered the x-ray only four years before in 1895.

In 1900 the total number of patients were 1230. Cost per patient per week \$11.69. Number of operations 918.

It might be interpolated here that in the early years of the hospital the work of Pasteur was beginning to be applied by Lord Lister and antiseptic and then aseptic surgery was being born. It took some time for the older surgeons to make the transition. In a picture taken in the old amphitheatre about 1895 where my father and Dr. Henry Brock were operating the old carbolic spray bottles are still to be seen. It is to be recalled that with antiseptic surgery a  $\frac{1}{2}$  of 1% solution of carbolic acid was continually sprayed on the surgeon's hands and over the wound during the process of the operation. It is a strange commentary on Lister's work that it was first taken up by the French, the Germans and this country before it was generally accepted in England. Dr. Frederick Henry Gerrish translated Champoniere's text on aseptic surgery, in the Eighties. When I was a small boy one could tell what surgeon was on duty at the hospital by whether it reeked of iodoform or whether it was merely perfumed by it.

In those years many operations were performed in patients' homes on the dining room or kitchen table with any available person pouring ether. The surgeon sterilized his gowns in an Arnold Steam Sterilizer and boiled his instruments wrapped in a towel in a kettle on the stove. In fact, the sterility such as it was may have been better than in the hospital operating rooms of that day where at times in those years, a run of serious wound infections would follow operating room procedures and the surgeons would, for a time avoid using the operating room and operate in the patients' rooms. In the early years, instead of gauze sponges sea sponges were used over and over again and even with washing and boiling one might suspect that their sterility was sketchy. Of course, the idea of sterility must have been quite a step for men who had operated in old Prince Albert Coats with the needles and sutures stuck in their lapels. The more old dried blood on the coat the greater the surgeon — a good deal like the once white shoes affected by some surgeons in the operating room in recent years.

(As late as 1916 at the Maine General Hospital the house officers put up the cat gut sutures and autoclaved them. It could not have been an ideal method.)

In 1902 the laundry was enlarged and the Nurses' Home (now called the Alida Leese Home) was completed with accommodations for 58 nurses. There were sheds for physicians horses on this site. As a small boy, I often waited there in the buggy with the hired man while my father made his rounds. The odor of horses was evident and I recall puzzling in my mind why they named the building in honor of the horses "The Horse Piddle."

In this year the Obstetric Service was instituted with Dr. Stanley P. Warren as obstetrician. (It wasn't until

the early thirties that an active obstetric service was functioning.)

Dr. Warren was a pious gentleman, a graduate of Yale. He wrote excellent English and published a text book on obstetrics. His knowledge was Academic and what he knew, he didn't always apply. He chewed tobacco surreptitiously and in his office he had a spittoon shaped like a turtle that he could hit from all corners and all angles. When I was in medical school in 1916, he was to do a Caesarian Section and invited all the medical students and nurses to be present. They were. He mapped out the position of the child and bawled out the house officers for not being able to hear the fetal heart. Before operating, a much maligned house doctor suggested that the patient be catheterized. A nurse brought a four ounce graduate and this was trotted back and forth till over two quarts of urine were removed and the patients' belly flat. She wasn't even pregnant!

This same year the Orthopedic Service was instituted with Dr. Edville Abbot as surgeon. In this year the average stay of a patient in a hospital was 30 days.

In 1903 the new surgical pavillion was completed and was first used on November 11, 1903. At present, this is the laboratory building. Originally, the lower floor was an ambulance entrance, on the right a small examining room, on the left an emergency operating room. Neither of these rooms were much used. There was a large room first used as an "eye" room, and later as a genito-urinary operating room and now used as a morgue; and an excellent laboratory, which I am sorry to say was not often used. It was not until the mid-twenties that the hospital had a pathologist with an office at the hospital. There was also one of the largest bath tubs I ever saw in one of the rooms on this floor.

On the second floor was the main operating room with amphitheatre seats on each side under which was the surgeon's locker and scrub rooms, an instrument room. There were two anesthetizing rooms, one of which I later used as an ear, nose and throat operating room, a private operating room, and a nurses' work room and toilet. This toilet was important as it was the only one available for the four house officers who lived in two ill lit poorly ventilated rooms under the eaves with an all purpose wash bowl in each room.

In this same year 1903 a children's ward was established. It is now the record room. A night supervising nurse was hired. The hospital steward became the x-ray technician. The "Porte Cochere" was erected in front of the central building and Dr. Charles Denison Smith became superintendent. He was to serve until February 25, 1925.

In 1904 the kitchen was enlarged and rooms built above it for the help. The old isolation cottage was torn down and the "old" surgical building used for isolation.

When I think of the horrible dirty dingy place under

the slope of the amphitheatre, that was used for isolation when any unfortunate nurse got measles, mumps, scarlet fever, etc., when I was a house doctor in 1916; it gives me the horrors. There was room enough and there was light enough but the hardwood floor was grey from lack of washing. The plaster had not been painted since the structure was built. It was almost black. If there weren't any rats it was because there was nothing for them to eat.

For the next twenty year period, almost any forward progress in the affairs of the hospital gradually ceased. The plant was run down. The walls of the wards and private rooms became indescribably grimy. The Staff had no meetings and no policy. New appointments were made by pull and politics and the hospital wound up with a Staff of too many round pegs to fill all too many square holes.

In 1908 the Children's Hospital was opened, just as the Maine Eye and Ear Infirmary had been opened in 1890. Each resulted from a strong personality. Dr. Edville Abbott and the Children's Hospital and Dr. Erastus Holt and the Maine Eye & Ear Infirmary, both were thwarted by the directors and staff. It always seemed to me that with a little more breadth of view and understanding, both institutions would originally have been a part of the Maine General Hospital. In this period Dr. William Cousins opened St. Barnabus Hospital which eventually had beds for about forty private patients, very nearly all in private rooms. It also had two well equipped operating rooms, a room for minor cases and a delivery room. Again the Directors of the Maine General had lagged by not caring for the private rooms that they had, and for not expanding. During this period Dr. Frederick King opened a hospital for his own patients. At his death, Dr. Drummond and Dr. Files purchased it and later built the State Street Hospital.

It might be remarked at this point that while now there are only five Training Schools for Nurses in the entire State of Maine in the early twenties, there were six in Portland at the Maine General, at the Eye and Ear Infirmary, the Children's, St. Barnabus, State Street and finally the Queens (the predecessor of the Mercy).

In 1909 kerosene lamps were used in the wards at night. Electricity was only used in the evening hours being turned off at 11 p.m. Bedside electric push buttons were put at the bedsides for patients.

In 1910 there was a lack of hot water at night for hot packs. It had to be heated on stoves in the ward kitchen. An intercommunicating telephone system was installed with 16 stations. This did not connect with the city telephone system. For the next fifteen years, a nurse could only receive an outside call in the small pay telephone booth in the corner of the hospital waiting room.

In 1912 the hospital hired a dietitian to teach the nurses. Up to this time there had been but one graduate nurse in the hospital. A night supervisor was



now employed. In 1913 in September there were twenty four cases of typhoid fever in the wards of the hospital at one time.

It might be well to state here that smoking had never been permitted in the wards of the hospital and would not be until about 1926. Ward patients who desired to smoke had the very doubtful pleasure of being able to do so in a small unbelievably dark dingy room with a dirt floor with saw dust filled boxes for butts and tobacco juice. This was located in the far corner of the eastern pavillion basement.

All of the windows in the hospital had wooden inside blinds. The woodwork was chestnut varnished. The beds in the large wards were in a row on either side. Beside them was a wooden bedside table. Bed bugs were occasional visitors. All ambulatory patients ate at a table in the ward dining rooms now used as four bed wards.

Each fall at least one half of the men's wards were filled with typhoid patients. In the winter there were many with pneumonia and some attempt was made to keep them isolated. There were many "cardiorenal" cases but patients with coronary disease as yet had neither been recognized nor hospitalized.

The medical service was not a very strong service and actually had little in the way of drugs to use.

In 1914 Drs. Abbott and Pingree resigned from the Orthopedic Service.

Between 1916 when I was house officer and 1923 when I went on the Staff, no changes occurred except that the inside of the hospital grew dirtier and grimmer.

In about 1914 an assistant head nurse was added to the nursing staff. In addition to overseeing the nursing on the wards, and giving instructions, she also taught anesthesia. It was only possible to run two operating rooms at this time and while she was instructing a beginner in one operating room her last pupil was the anesthetist in the other. It was all ether anesthesia.

In 1916 a graduate nurse was employed to supervise the operating room. She had a voice that would take tin right off a roof.

For a number of years the student nurses had worked on an eight hour shift but their classroom work was in addition. The senior nurses, in turn and somewhat according to their abilities, were head nurses on the various wards, the most capable being the head nurse in the operating room.

In 1916 the paying patient in the ward was charged from \$2.50 to \$3.00 a day, the smaller private rooms were from \$4.00 to \$5.00 a day but the patient in the Ward D rooms got a bargain, for eight dollars a day he had a student nurse on 24 hour duty with a four hour relief and she occupied an adjoining room. If such a patient chose, he could be a service patient and have his physicians' or surgeon's services for nothing and some did.

The operating room fees ran from \$5.00 for a minor

case to \$10.00 for a major case. There were no extra charges for anesthesia, laboratory work or dressings.

In the period of Dr. Smith's regime from 1903 to 1925 the front doors of the hospital under the Port Cochere were not used. They opened into a dark hallway which opened into the long corridor that ran the length of the hospital. Across from this hall was a stairway to "D2."

The two rooms on the left of the entry hall were occupied by the Superintendent's office, where the only blood pressure apparatus in the hospital was kept, and a smaller room which served as a store room and was the place for Mrs. Stevens the bookkeeper and Miss Gott the stenographer. They and the two small girls in the waiting room were the entire clerical staff of the hospital.

Across the main corridor was the house officers dining room, presided over by "Ma" Rollins the housekeeper — an ex-undertaker's assistant. The Superintendent of nurses ate with the four house officers. The food was plentiful and excellent. Bridget waited on table. She was a dignified Irish girl of uncertain age.

To the right of the entry hall were two rooms. The larger was the waiting room. The wall space was taken up by wooden benches and there was a wooden enclosed pay telephone booth in the corner. The inner smaller room served as a doctor's coat room, there were chairs in which the interns awaited the visiting staff, two enormous desks and two tiny high school girls "Genie" and "Adenoid Annie." They answered the phone and admitted patients and escorted them to the wards.

Across the corridor was the drug room, lined with shelves containing bottles of dry botanical drugs that may well have gone back to the founding of the hospital. They were never used and, as a house doctor I gave myself the pleasure of throwing away all I dared. The other drugs were bought in a hand to mouth fashion and were dispensed by the medical house officers who put up prescriptions, solutions and made split which was doled out to Eddie Chase, the one-eyed elevator man who was called "Cyclops" by one of the visiting surgeons.

The Maine General Hospital was intimately associated with the Bowdoin Medical School, the Medical School of Maine. In my opinion, the lack of progressive spirit among the Board of Directors of the Hospital, its Staff was one of the principal factors in closing the school.

Dr. Charles Dennison Smith, the Superintendent was a large gruff man who always said no to any request except an invitation to eat. Shaw's grocery store had enormous round cheeses at that time from which to cut slices of a pound or more for a customer. One of my clearest pictures is of him cutting off large pieces from these cheeses and eating them. He was paid

*Continued on Page 279*

# Afflictions Of The Knee In Children

STEPHEN E. MONAGHAN, M.D.\*

In the child, the knee is the most common joint in the body to be the site of either subjective or objective complaints. In addition to the fact that the knee joint itself is truly the site of frequent pathological processes, pain from diseases in the hip joint is not infrequently referred to the knee. This is due to the common innervation of the hip and the knee joints by the obturator nerve.

Plate No. 1 is an x-ray of the hip of a 12 year old boy who had complaints referable to his knee for some four to five weeks. On two separate occasions, x-rays of the knee had been taken and read as negative but the hip had been overlooked. Finally the boy stepped in a hole, had acute pain in the hip and x-rays at that time revealed an acutely slipped femoral epiphysis which had probably been in the process of slipping for the length of time of his symptoms.

Plate No. 2 is the x-ray of a boy again complaining of pain in his knee. This had been of several months duration and associated with a limp. Here x-rays of the hip were obtained in addition to x-rays of the knee revealing a classical case of Legg-Calve-Perthe's disease. This is an aseptic necrosis of the head of the femur and is frequently the cause of complaints of pain in the knee in the age group 5 to 12. Knee pain is the presenting symptom in some one third of all cases seen and the condition is much more common in boys than in girls. Because of the nature of the process, it is most important to make an early diagnosis as treatment consists of the relief of weight bearing for an extensive period of time until complete healing has been obtained.

Thus in considering the differential diagnosis of limp and knee pain, one should always consider disease processes localized in the hip.

Because of the myriad of conditions which appear localized in the knee in children, I will limit this discussion to those which are commonly considered to occur most frequently. Tumors and conditions secondary to direct trauma are purposely excluded because these are so extensive as to be a presentation in themselves.

## SEPTIC ARTHRITIS AND TOXIC SYNOVITIS

In analyzing a problem related to the bones and joints at any age, it is most important to first consider the processes due either to infection or to new growth. One is aided to a great degree in his search for an infectious focus by the attendant systemic finding of malaise and fever and the laboratory finding of increased sedimentation rate, elevated white blood count and a polymorpho-

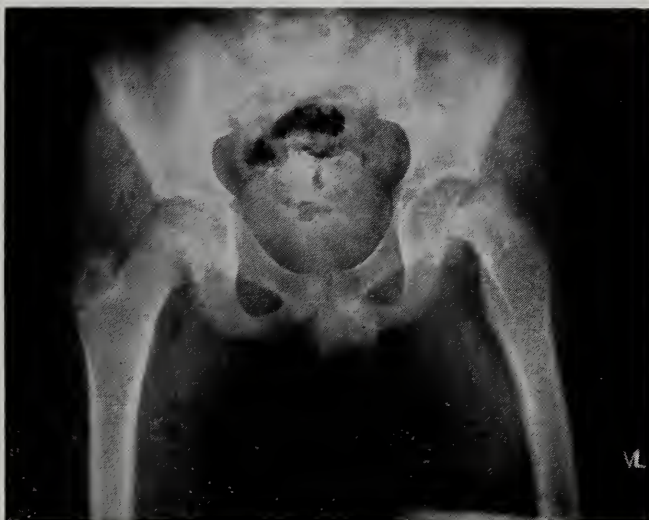


PLATE NO. 1



PLATE NO. 2

\*Orthopedic Service, Maine Medical Center, Portland, Maine.



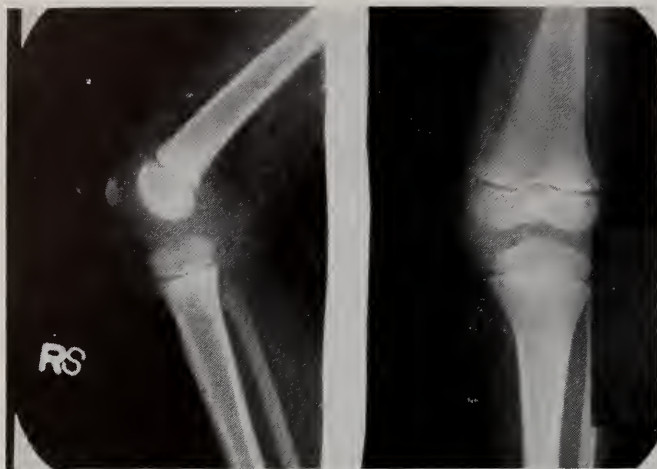


PLATE NO. 3. Toxic Synovitis



PLATE NO. 4. Pyogenic Prepatellar

nucleocytosis. Thus a swollen tender joint in the presence of fever with an increased white blood count and sedimentation rate should certainly be considered a septic process until proved otherwise. Unfortunately for the diagnostician and fortunately for the sick child, one may see an almost identical picture to the above in a condition referred to as Toxic Synovitis. Thus it is imperative when such doubt exists to immediately carry out an aspiration of the joint. By this means, one can frequently determine merely by the appearance of the fluid whether or not it is septic and by doing additional laboratory work, including a cell count, a smear, culture and sensitivity as well as a glucose determination, in a very short time specifically identify the disease active process.

Early in the disease process, diagnosis must be made on the basis of history and physical examination as well as the above routine laboratory findings. The x-ray at this time is of very little help and would show only evidence of effusion in the knee. If a septic process should be present and one were to wait for specific x-ray findings, this would almost always be too late to expect a normal joint to exist at the termination of treatment. Thus it is of utmost importance to make an early differential diagnosis between toxic synovitis and septic arthritis in these cases as the etiology, prognosis and treatment of the two conditions are in wide variance. One is caused by an infectious organism usually staphylococcus aureus coagulase positive or occasionally streptococcus viridans or pneumococcus invading the synovium of the joint whereas the other, toxic synovitis, is probably an allergic phenomenon secondary to a focus, either viral or bacterial, elsewhere in the body. If one concludes the latter to be the case, prompt attention to the focus of infection elsewhere gives universally good results. If, however, at the time of initial aspiration the fluid appears to be septic, the joint should be emptied of the pus and 1,000,000 units of aqueous penicillin should immediately be instilled. It is imperative to do a culture and sensitivity at the time of initial aspiration

and this should be followed by daily aspiration of the joint with the injection of 1,000,000 units of aqueous penicillin together with the proper parenteral antibiotic as determined by the sensitivity. If in a period of 36 hours, the process is detained, surgery may be deferred. However, if the signs of acute infection localized to the knee joint continue in spite of daily aspiration and injection combined with rest and parenteral antibiotics, there should be no loss of time to open the joint and to establish adequate drainage. This should be done only in the operating room under sterile conditions and as an emergency procedure. Here certainly, if there is the slightest question as to the resolution of the infectious process, surgical drainage should be carried out as the continuing bathing of the joint in pus causes an irreversible change to the articular cartilage.

#### PYGENIC PREPATELLAR BURSITIS

Another frequent site of pyogenic infection about the knee joint is in the prepatellar bursa. Here again one sees the systemic signs of pyogenic infection. This often follows an acute respiratory infection especially with infected tonsils. The organism most commonly the cause of this is the streptococcus but not infrequently staphylococcus.

It is most important in this situation to appreciate that the prepatellar bursa does not communicate with the knee joint proper and that in doing a diagnostic aspiration that care be taken not to contaminate the knee joint itself. Again a specimen for culture and sensitivity should be obtained by aspiration following which the proper antibiotic should be used systemically together with heat and rest to the part to localize the process. This has usually been accomplished in 24 to 36 hours at which time incision and drainage should be performed and good results can be expected.

#### DISCOID MENISCUS

Disease and injury to the menisci in children are somewhat uncommon although they occasionally do

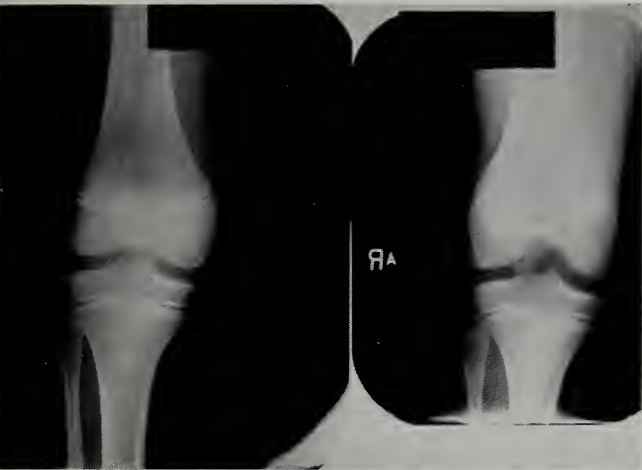


PLATE NO. 5. Osteochondritis Dissecans

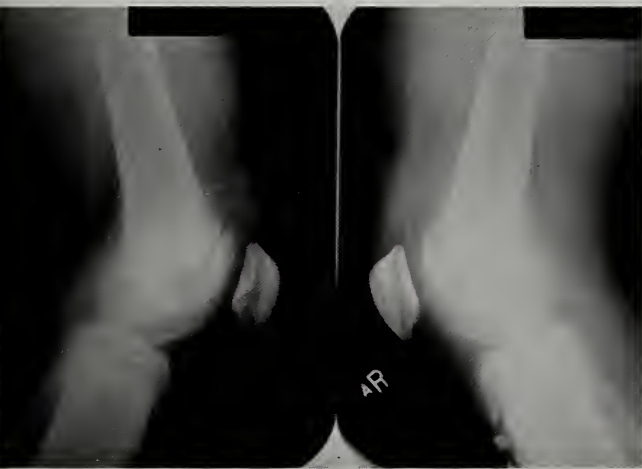


PLATE NO. 6. Osgood Schletters Disease

occur. Tears of the menisci have been reported as early as five years but these are a collector's item. The condition referred to as a congenital discoid meniscus is occasionally seen in a child in the early years of life. This is manifest by a loud snapping noise in the knee during flexion. The etiology of this is not universally agreed upon but it is probably more developmental than congenital and the snapping is caused by the fat, round, hypermobile meniscus moving in and out of the intercondylar notch. It is almost always localized to the lateral meniscus of the knee. Because of the increased mobility, these menisci are particularly prone to injury and signs of locking may occur before full growth occurs. In such a case, the meniscus should be removed in its entirety by surgical excision. Otherwise no particular treatment is indicated and reassurance alone should be given to the family.

THE OSTEochondropathies

There are several osteochondropathies localized about the knee joint that frequently cause symptoms.

The adjoining plate is that of a condition referred to as osteochondritis dissecans. This is a fairly common

cause of effusion, pain, limp and not infrequently locking in the knee. It is more common in boys after the age of 8 or 9. It is found that the pathology here is intra-articular and most commonly localized on the lateral side of the medial femoral condyle. By x-ray one sees a crater formed by a line of radiolucency in which sits the involved portion of the femoral condyle. This latter may appear more dense than the surrounding bone and not infrequently this area may be extruded into the joint as a loose body. In this case signs of locking may occur. The etiology is thought to be the shutting off of the end arteries to the area with possible necrosis of the involved segment. If this segment has not been extruded, prolonged immobilization frequently allows complete healing. Recently the practice of immobilizing the knee in partial flexion with a walking plaster cylinder has been carried out and in a great many cases this is followed by healing of the diseased area in the process of three to five months. This allows the patient to be ambulatory and reasonably active during treatment. If there is a loose body in the knee as a result of this pathology, it should be removed surgically as it will cause traumatic arthritis of the knee joint if it persists.

Osgood Schlatters disease is another condition which is frequently included in the group of osteochondropathies which may well be mislabeled.

Here the complaints are of pain, swelling and occasionally inflammation over the insertion of the patella tendon. It is frequently bilateral, more commonly seen in boys during the period of rapid growth and by x-ray one sees this as a fragmentation, enlargement and irregular ossification of the tibial tubercle. Closer observation, however, reveals swelling of the patella tendon with obliteration of the V space between the tendon and the bone. The etiology of this would seem to be associated with the tension of the patella tendon on this growth center during this most rapid period of growth in adolescence. Again this is more commonly seen in boys between the ages of about 11 and 14 or 15. Conservative measures which limit the motion of the knee usually suffice in gaining symptomatic relief aided occasionally by injections of Hydrocortisone®. Initially one could start off with an adhesive tape strapping of the knee or an ace bandage. If this does not suffice, then immobilization in a walking plaster cylinder should be carried out. In a very few cases, surgery consists of a shelling out of the loose fragments or occasionally the re-attachment of the tibial tubercle may be necessary.

In summary, a few of the more common sources of knee complaints in children have been superficially discussed. Conditions due to trauma and to new growth have been purposely excluded. I cannot too strongly state the importance of making an early diagnosis of septic arthritis of the knee and the initiation of early aggressive treatment. The penalty for inadequate treatment is that of an unsightly limp and pain for life.



# Some Recent Developments In Ophthalmology

## Cataracts, Glaucoma, Retinal Detachments And Contact Lenses

MAURICE VAN LONKHUYZEN, M.D.\*

To a harassed physician the specific details of a specialty, other than his own, can at times be as dull as the items on his wife's laundry list. In medical school he was eager to learn all there was to know about amino acids and the life cycle of the Loa-Loa. Now he slaves to stay abreast of the new drugs, instruments, theories, and hypotheses his colleagues in his own field daily thrust upon him; he has little time to follow the points scored in panel discussions in other fields. The complete physician, however, has not entirely lost interest in the other fields. To practice good medicine, to be able to answer his patients questions, he will attempt to acquaint himself with the major developments in other fields. This paper is written to present some of the major developments during the past few years in the field of ophthalmology. I have selected four topics which have caused the greatest amount of excitement and activity among the ophthalmologists all over the world. They are: surgery by enzymatic action in cataract surgery, glaucoma detection, coagulation by light energy in retinal detachment surgery and contact lenses.

### CATARACTS

The development in this field came strictly by accident. In the Spring of 1957 in Barcelona, Spain, Dr. Joaquin Baraguer<sup>1,2</sup> one of Europe's leading ophthalmologists, had a patient with an old blood clot in the vitreous. He decided to try one of the trypsin derivatives and injected this into the eye. The next time he looked into the eye he discovered to his amazement that the whole lens had disappeared. The lens had dislocated and was lying at the bottom of the vitreous. From this developed a process now known as Zonulysis. This is an extremely fascinating surgical procedure by which an enzyme, alpha chymotrypsin, is employed to selectively cut an anatomical structure.

The lens, a non-cohesive structure, is kept in shape by a thin capsule and is kept in place by the zonular fibers running behind the iris from the periphery of the lens to the ciliary body. In cataract surgery there are two major methods of removing the cataract, that is the opaque lens. The older and less frequently used method (after incising the cornea and taking care of the iris) is to cut the lens capsule and remove or wash out the lens substance leaving the posterior capsule and zonules in place. The newer, and in this country more frequently used, method is to leave the capsule intact

and to rupture the zonules by force as the lens is pulled or pushed out of the eye. If the zonules are strong (the younger the patient the stronger the zonules) and the procedure is not carefully done it can cause considerable tugging and distortion of the globe which may lead to a number of operative and post-operative complications. The amazing discovery is that alpha chymotrypsin will selectively dissolve the zonules, greatly reducing the trauma to the eye in delivering the lens.

Baraguer's reports fired the imagination of the ophthalmologists, and a vast amount of research and clinical work was done rapidly to prove or disprove that the enzyme was effective. The American Academy quickly organized a statistical survey and a research project on a national scale<sup>3</sup>. If the enzyme is placed in direct contact with the retina it may destroy the structure of the retina. If too high a concentration of the enzyme is kept too long in contact with the posterior surface of the cornea damage may be done to the delicate endothelial layer of the cornea. In the clinical use of the enzyme these situations do not prevail. The properly diluted enzyme is instilled directly under the iris with a syringe and fine canula. The surgeon waits from two to three minutes and irrigates the remaining enzyme out of the anterior chamber. With slight modification in the technique of the actual extraction of the lens any complications due to the use of alpha chymotrypsin are minor ones.

There is one unfortunate limitation to the use of the enzyme. In children under twenty years of age the zonules are very strong; in these we need the enzyme the most. Even the use of alpha chymotrypsin, however, does not prevent the frequent loss of vitreous in attempting an intracapsular lens extraction in these children. This may be caused by an adherence of the vitreous itself to the posterior lens capsule. We are still limited to the less refined method of linear extracapsular extractions in children. In the very aged, in whom the zonules are weak, using the enzyme would be carrying coals to Newcastle. Between the ages of twenty and sixty-five, however, this new development will immeasurably help to save many a patient his precious sight.

### GLAUCOMA

When the practising physician was in medical school, if he learned anything about glaucoma, it was not any sensible system of classification. Not until recent years have we brought some order into our concepts of this disease. There are only two major types to be consid-

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ered here. The acute or closed angle glaucoma and the chronic or open angle glaucoma. These are two entirely different entities and only have in common a rise in intra-ocular pressure. The first, the acute glaucoma, is the one that you will see walking into your office complaining of eye symptoms. The patient will have a red eye, a painful eye, a headache and he may have vomited. His pupil will be fixed and somewhat dilated, and on palpation of the globe he will have a steel ball bearing under the eye lid rather than a rubber ball sensation. This is an emergency and you will do well to call in an ophthalmologist immediately. The iris has acted like a ring valve, is pushed against the peripheral cornea, and all hope of any aqueous being able to get to Schlemm's canal, the out flow passage, is gone. This disease can be cured permanently by an operation which makes a small hole in the periphery of the iris preventing it from ever acting like a ring valve again.

It is the second type, the chronic glaucoma, that I wish to stress in this discussion. This patient will *not* walk into your office or mine complaining of any referable symptoms. He has no symptoms and is totally unaware of his glaucoma. In this disease the mechanism is not sudden obstruction by the iris but rather a very slowly and gradually increasing resistance to the out flow of the aqueous in the channels themselves. The rise in tension develops slowly and to only moderate levels at first; the eye has time to compensate and prevent any unpleasant symptoms. The damage to the optic nerve is relentless, however, and leads to final loss of all sight. Because the loss begins in the peripheral field most patients are not aware of this loss until it is too late. Not until the glaucoma is in an advanced stage will one see cupping of the optic disc. The early rise in intraocular pressure is not high enough to be detectable by finger palpation, and the diagnosis of this unsuspected disease can be made only with a tonometer.

The recent development in this field has been the emphasis on early detection of chronic simple glaucoma. If detected in its early stages it can be controlled almost indefinitely and without loss of sight. If detected late the damage is irreversible, the treatment much less satisfactory, and blindness frequently the final outcome. Throughout the country Glaucoma detection clinics are springing up. A typical clinic<sup>5</sup> is preceded by an extensive publicity campaign. A local service club usually assists in this and may also organize the many volunteers necessary to staff such a clinic. The ophthalmologists conduct the clinic by taking tonographic measurements, tonometry being the only valid screening device. Visual acuities are usually taken, and there may or may not be other diagnostic tests such as funduscopy and visual field testing. A well run program is the one in the State of Connecticut<sup>6</sup>, which is directed by the State Chapter of the National Society for the Prevention of Blindness. Of some 2,529 people screened 173 were referred for further examination. Follow up reports have been received on 100 thus far, 40 of whom had

positive or suspected glaucoma. These clinics continue to bear out the national average of the presence of undiagnosed chronic simple glaucoma in 2% of the population over 40 years of age. Several detection clinics are being held in the State of Maine.

A word of warning should be stressed here. Such a medical detection clinic is not run for any undue publicity for any organization or group, and above all the public attending should not be left with a false sense of security; because a patient does not have any detectable glaucoma at this instant does not mean that he will not have it at any later date. Indeed, the greatest advantage of a glaucoma detection clinic is its educational aspect. Such a clinic educates the public to an awareness of this dreaded disease and to a need for medical eye care.

Glaucoma detection should not be limited to the ophthalmologists, either in clinics or in their offices. Any and all physicians, practising preventive medicine by doing complete diagnostic medical examinations to rule out disease, should rule out glaucoma; its incidence is high and its effects crippling. For this purpose a rugged, simplified, less expensive tonometer has been put on the market in recent years,\* designed for use by all physicians.

#### COAGULATION BY MEANS OF LIGHT

A lesion inside the globe is frequently treated by electric cautery. The sclera overlying a suitable tear in the retina causing a retinal detachment is exposed, and with a diathermy needle electric cautery is applied to the outside scleral surface. The burn penetrates through the sclera and choroid and finally arrives at the retina where scarring then will seal them together and close the hole. Heretofore the approach has always been from without.

During the past five years extensive work has been done in Germany by Dr. Meyer Schwickerath<sup>7</sup> in developing an instrument to coagulate the retina from within, using an extremely intense light directed through the pupil. The idea is quite simple and obvious, and it is amazing that such an instrument was not developed earlier. We all know of burning of the retina by direct sunlight, and Dr. Schwickerath first tried this light source, as had others, but found it completely uncontrollable. His instrument is basically an ophthalmoscope in which, under direct vision for pinpoint localization and focusing, the light source can be temporarily and accurately overloaded. It is a large instrument, and because of its great and exacting electrical, optical, and mechanical requirements it is an expensive instrument.\*\*

\*The Berens-Tolman Ocular Hypertension Indicator manufactured by R. O. Gulden Inc., Philadelphia, Pa., available through surgical supply houses. List price \$18.50.

\*\*The instrument was perfected and is commercially produced by the Zeis works in West Germany and costs approximately \$12,000.



Nevertheless the ophthalmologists have developed a lively interest in this new technique.

In order for light energy to coagulate tissue it has to be absorbed by the tissue. Thus this new technique works only on non-transparent or pigmented tissues. The light will pass through the cornea, the lens, and the vitreous and not effect them. In a retinal detachment it will not even effect the retina because the retina itself is transparent. The first structure that the light beam encounters, where it can have its effect, is the pigment epithelium which does not detach with the retina. Thus only in very flat retinal detachments where the elevated retina is still in close proximity to the pigmented tissue can this technique be used to coagulate the retina. Light coagulation has great advantage in intra-ocular neoplasms. In malignant melanoma the tumor and its blood supply can be selectively destroyed. In a child with bilateral retinoblastoma the worse eye is usually enucleated and the better eye treated with radiotherapy in an attempt to save some sight. Light coagulation can be pinpointed to the tumor, not damaging other ocular structures, and can be repeated, many times if necessary.

An interesting use of the light coagulator is the making of a hole in the iris. In an eye in which the pupil is absent or displaced, for example post-operatively, a central optical iridectomy needs to be performed to restore vision. This is usually done with a fine knife. With the light coagulator focused on a point on the iris and set at excessive intensity, rather than coagulating the tissues, the intracellular fluids are rapidly brought to the boiling point and with a definite, audible explosion a hole is produced in the iris. Another interesting application is the treatment of Xanthomas of the eyelids, without the production of any scar. The skin overlying the Xanthoma is transparent and the light is only absorbed by the yellow pigmented Xanthoma.

#### CONTACT LENSES

Many of your patients will ask you about contact lenses. The present popularity of contact lenses stems from recent changes in their design so that they now can be worn all day long without discomfort by a majority of the people. Contact lenses are not new in the field of ophthalmology; they have been with us for more than seventy years. The older lenses were of the large, scleral type. The peripheral area rested on the scleral conjunctiva, the central area was elevated from the cornea, and the space between the latter was filled with fluid or tears. They were difficult to make, difficult to fit, and difficult to wear comfortably for any length of time. After long research by the manufacturers of the lenses the newer, corneal type lens was evolved during the past five years. These are the ones now used by the preponderance of wearers. They are extremely thin and light weight, made of plastic, and about two-thirds the size of the cornea. The posterior surface, or curve, is made to fit the cornea exactly, while the

anterior curve is ground to satisfy the optical requirements of the patient. The physiology of the cornea requires it to be bathed continuously in tears. Capillary attraction keeps a thin layer of tears between the contact lens and the cornea, while the small size of the lens allows it to slide over the cornea on any motion of the eye or lid, thus replenishing and refreshing the tear film under it. This is the reason for the comfort and the success of the newer lenses.\*

Medical indications for the wearing of contact lenses are those conditions in which a contact lens gives better visual acuity than a spectacle lens ever could, such as Keratoconus and irregular cornea. The post operative cataract patient and a patient with a high refractive error might also fall into this category of improved vision; there is an increase in the field of vision in these patients. Furthermore, since the contact lens moves with the eye they can maintain a sharp central focus over a wide range of ocular motion; with strong spectacle lenses the field of focus is limited to the central area of the glasses. There are also vocational and avocational indications, such as acting, certain sports, public appearances, etc. Other indications or advantages are cosmetic, psychological, no fogging or dirtying, and even less lens breakage of the contact lenses over eyeglasses. Almost all patients wearing contact lenses successfully like them and would not wish to return to glasses.

There are numerous medical conditions contraindicating the wearing of corneal lenses: ocular infections, ocular allergies, degenerations of the cornea, corneal edema, epiphora, dryness, neuroparalytic keratitis, marked exophthalmos, etc. A minimal or only slight refractive error in a patient is an optical contraindication. An important group of contra-indications might be called the personality factor group. If the patient is not personally highly motivated but is pushed by a relative, or is not sure if and why he wants contact lenses, or has doubts about them, or wants to just try them he should be definitely advised against them.

There have been no reports in the medical literature of any permanent damage to the eyes due to contact lenses when fitted under medical supervision. Though most patients learn the technique of insertion and removal of the lenses quickly, proper fitting of contact lenses, and the adjustment of the patient to them, may extend over weeks or months. During this period occasionally corneal edema or slight corneal abrasions may occur. These clear with proper medical treatment. Because of these medical implications before, during, and after the fitting, this should be done by or directly under the supervision of the medical profession<sup>8</sup>. Contact lenses required a considerable amount of care; they need to be cleaned every day and soaked in solution overnight. The

\*Recently the manufacturers have even placed bifocal contact lenses on the market. In one such type the reading segment is ground in the form of a ring surrounding the central portion of the lens. These are still in the experimental stage and not altogether satisfactory.

lenses are expensive, and except for the patients with visual and vocational indications, they are in a sense a luxury. The patients should be so advised.

Some physicians still feel that a contact lens is a foreign body that should not be in the eye. With the present state of development, however, contact lenses have many advantages, and with conservative, correct medical advice and supervision the disadvantages of adjustment, care, and expense become mostly matters of the patients choice.

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MAINE GENERAL HOSPITAL—AN HISTORICAL SKETCH — *Continued from Page 272*

about \$1800.00 a year and his house. I expect he also received a good deal if not all of his food. He ran the Hospital with economy.

Dr. Charles Young succeeded him as superintendent in 1925 but the name was changed to director. At about this time, one or two surveys were made on the possibility of hospital expansion. The Edward Mason Dispensary on India Street became the Out-Patient Department of the Hospital and the principle of appointing new staff members to the Out-Patient was inaugurated.

The Staff formed an organization and had dinner meetings at a hotel. In turn each doctor entertained the staff. It was quite a bill for a young physician to pay. The Staff began to get the idea that it needed to clean house and get itself in order. Just as it was preparing to do so, the directors took matters in hand and named chiefs of service with appropriate staffs. This caused much bitterness but undoubtedly, in the long run, was best for the hospital.

Prior to 1926 all of the fractures, the gynecology and kidney surgery had been performed by the surgical service. The obstetric service only took care of abortion clean ups, miscarriages, and a few Caesarian sections. The Orthopedic and Gynecological services were formed and how the surgeons did complain. These were indeed strenuous times.

At this time, many progressive men came to Portland to practice and became members of the Hospital Staff. Two of these men who made great contributions were Dr. Mortimer Warren in Pathology and Dr. Langdon Thaxter in X-ray. In conjunction with the Cum-

berland County Medical Society and at Staff meetings, clinics were held for the display of interesting cases and an ability and an urge to teach was developed in the staff.

The Directors were moving slowly toward the erection of the new 1929 pavillion. When this had been accomplished the staff began to function as a well integrated body and the internships were easily filled.

At the time of the second World War the Maine General Hospital unit took many of the most active staff members while others served with the Navy. Those remaining in Portland put in long hours and functioned well together.

The period following the war has seen many changes and improvements. An out patient department at the hospital and a tumor clinic, department of cardiology and neuro-surgery, expansion of the x-ray units with more adequate means for deep x-ray therapy. Many, many changes in the laboratories, a full time physician in charge of the department of anesthesia, changes in large wards into four bed cubicles and in 1955 the beginning of the building of the new "Medical Center."

For the year of 1959 at the Maine Medical Center the cost per patient per day was \$32.41, the average daily hospital census 337.7, the total number of in-patients 13,713, the number of under-graduate nurses 167, the number of graduate nurses 193. There were 6 interns, 16 residents, and 9 other physicians employed by the hospital. The total number of employees was 734.



# The Use Of Chloroquine (Aralen)<sup>®</sup> As An Antiarthritic Agent

PHILIP P. THOMPSON, JR., M.D.\*

The effect of Chloroquine on the course of rheumatoid arthritis in 20 patients will be presented. The duration of therapy varied from 2 to 20 months. The degree of improvement ranged from none to major (Grade II) improvement. Fourteen patients had some improvement while on the drug, none had a complete remission. Toxic reaction necessitated stopping six patients from taking chloroquine.

Two diseases any more unlike than malaria and rheumatoid arthritis would be difficult to imagine. However, recently drugs found to be of benefit in the treatment of malaria have been found effective in the treatment of rheumatoid arthritis.<sup>1-4</sup> Because of the apparent dissimilarity of these two diseases, one might ask what features do those two diseases have in common. Both diseases are systemic and commonly involve the reticuloendothelial and hematopoietic systems particularly. In addition both diseases have circulating in the blood stream a foreign protein. In malaria the parasite disintegration products and in rheumatoid arthritis a peculiar macroglobulin are found to circulate throughout the body. It is postulated that the aminoquinoline compounds in some way affect this foreign protein or the body reaction to it. In malaria these compounds must enter each blood cell to destroy the malarial parasite. In long usage of the drugs in R.A. the drug is deposited in the corneal epithelium and in hair roots to change the color of the hair. It would seem that the drugs have an affinity for nucleotides and nucleates being found in liver, kidney, and lung concentrated 400-700 that of the blood. The exact mechanism of aminoquinolines in arthritis is not known. Some postulate it acts on auto-immune antibody reaction by depressing antibody formation. Others feel it may interfere with the metabolism of D.N.A. (desoxyribonucleic acid.)

Because of several recent favorable reports<sup>5-6</sup> on the use of chloroquine, it was decided to use it as a method of treatment of 20 patients with rheumatoid arthritis. Six of these patients were treated at the Arthritic Clinic of the Maine Medical Center and fourteen were treated in private practice.

Table #1 summarizes some of the data on the patients.

## CASE REPORTS

M.W. This 59 year old man had had smoldering rheumatoid arthritis for eight years and had been treated with salicylates and Phenylbutazone. The latter gave good relief until it had to be stopped because of a rash. Following the withdrawal of the latter he had a flare up with State III activity, manifest by hot tender swollen joints of fingers, wrists, elbows, knees, and ankles. His Sedimentation rate rose to 1.9 mm/min. Chloroquine was started in dosage of 500 mgm. per day and continued for 11 months at which time he developed blurring of his vision and chloroquine deposits were seen by slit lamp examination in his cornea. He had had a Grade II improvement at this time with lessening of heat, swelling, tenderness and general improvement in well being. Within two months of stopping the chloroquine his vision had returned to normal but the disease activity had progressed to Stage IV major disability. As can be seen from the table, the sedimentation rate had dropped from 1.9 mm/min to 1.4 mm/min. during chloroquine administration.

H.H. This 25 year old housewife had had very active R.A. for 5 years with bony deformities of hips and knees. In spite of 75 mgm. of cortisone a day she continued to have pain, stiffness, effusion in knee joints and progression of flexion deformities of both hips and knees. At the time of starting chloroquine her sed rate was 1.7 mm/min. After 12 months of therapy the sed rate had dropped to 1.1 mm/min. there had been considerable relief of pain and signs of inflammation in the involved joints. Her cortisone dosage could be lowered to 25 mgm. a day. Because of G.I. symptoms of indigestion and anorexia she lost 12 lbs of weight. For this reason she was shifted to Hydrochloroquine (Plaquenel) 200 mgm. a day with loss of G.I. symptoms, regain of weight and continued improvement of Grade III (minor) improvement.

C.T. This 31 year old housewife with psoriatic arthritis of the feet had been severely limited by pain and difficulty walking and standing of 1 years duration. Salicylates and metatarsal bars on shoes had given only minor relief. She was started on chloroquine .5 Gm daily and continued for 13 months. Although her sed rate rose from 1.1 mm/min. to 1.5 mm/min. during her course of treatment the objective symptomatic relief was dramatic of Grade II (major improvement) degree.

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TABLE I

Patient		I.V.	A.O.	C.S.	Dose	I.S.R.	CSR/mm	P.C.	Time on drug	Improvement	Complications	Remarks
A.	S.				Gm/d	mm/min. (mm/hr.)						
D.D.	59 F	6-'58	41	12-'58	.25	1.0	1.5	1.6	2 mo.	2+	o	_____
M.W.	59 M	4-'51	51	9-'57	.5	1.2	1.9 1.4	.7	11 mo.	2+	visual opac Halo stopped	*Recovery of eye symptoms flare up after stopping
E.H.	55 F	8-'57	54	11-'57	.5	1.8	2.8	.7	13 mo.	3+	0	_____
J.R.	67 M	9-'54	59	9-'57	.5	2.2	1.6	2.1	12 mo.	2+	wt. loss 12 lbs.	Plaquenel with no ill effects
H.H.	25 F	11-'53	20	11-'57	.5 .4gm-P	.5	1.7	1.1	12 mo.	3+	anorexia wt. loss 10 lbs.	*O.K. on Plaquenel
M.D.	54 F	9-'57	41	5-'58	.25	.7	1.6	1.5	2 mo.	+	Rash	*
R.W.	68 M	6-'54	43	7-'58	.5	1.8	.6	?	4 mo.	0	Halo	Stopped 4 mos.
E.F.	43 F	7-'58	38	8-'58	.5	1.8	1.8	1.8	6 mo.	2+	0	Diabetic
A.M.	49 M	10-'58	48	11-'58	.5	(38)	(38)	(13)	3 mo.	1+	0	_____
W.H.	55 M	12-'55	50	11-'58	.5	.8	1.9 (51)	2.0	3 mo.	2+	0	_____
I.M.	57 F	12-'51	26	11-'58	.5	1.8	(1.6)	(40)	2 mo.	+	0	_____
P.I.	57 M	6-'56	52	10-'58	.5	1.8			5 mo.	3+	0	_____
C.T.	31 F	6-'57	30	12-'57	.5	.1	1.1	1.5	13 mo.	2+	0	_____
J.S.	48 F	4-'54	34	7-'58	.20-P	1.4	1.1	1.1	7 mo.	0	0	Plaquenel only
C.B.	70 F	5-'57	45	3-'58	.5	(34/32)		(22/40)	7 mo.	+	wt. loss; anorexia; eye lash loss; halo; ceph. floccu- lation unchanged.	*
E.B.	55 F	7-'54	52	7-'57	.5	(41)		(41)	3 mo.	2+	hair white	*
E.W.	57 F	10-'56	51	7-'58	.5	(38)			7 mo.	+	_____	_____
E.M.	55 M	7-'57	52	8-'58	.5	(18)		(10)	6 mo.	?	0	_____
A.W.	37 F	2-'57	33	1-'58	.5	(36)		(41)	13 mo.	1+	hair color change	(Deposits in cornea by slit lamp)
E.G.	67 F	6-'50	48	8-'57	.5	36/28		24/38	1 mo.	+ 2+	(Blepharitis, ane- mia, Ht. 38&28) (Retic 1% Coombs test negative)	*

\* — Stopped. IV — Initial Visit; A.O. — Age of onset of arthritis; C.S. — Chloroquine Started; I.S.R. — Initial Sed. Rate; C.S.R. — Sed. Rate just prior to Chloroquine; P.C. — Sed. Rate after Chloroquine. (E.S.R. mm/hr.)

A.W. This 39 year old housewife had developed arthritis four years before her initial visit and 2 weeks after the delivery of her second child. After a period of remission during her third pregnancy, she had a severe flare up 2 months postpartum. When first seen she had Stage III disease with subcutaneous nodules and hot swollen joints. She had only salicylates and routine therapy prior to starting chloroquine. She had lost 15 lbs. of weight to 97 lbs. In spite of change in color of hair and visible deposits of chloroquine in the cornea chloroquine was continued for it did not interfere with her vision. She had Grade II improvement with a weight gain of 7 lbs. in a year and change from Stage III disease to Stage II. The sedimentation rate did not change perceptibly.

SUMMARY OF RESULTS

Patients Male 6

Age Range	Female 14
% Improved	20-70 years
Drug Stopped because of toxicity	70%
Blood Dyscrasia	30%
Changed to Hydrochloroquine	10%
Duration of therapy	10%
	2-20 months

DISCUSSION

Our experience was similar to that of Cohen and Calkins<sup>5</sup> that "the fire" of the disease was largely smothered by chloroquine. In their experiences the single outstanding objective change was the lessening of heat in the involved joints. In our experience not only were the joints less warm but also less tender and swollen.

The improvement is certainly not dramatic or immediate but was usually sustained once it started and continued as long as the drug was continued. In only one



patient was there any suggestion of flare up on stopping chloroquine.

In this series the usual toxic symptoms were encountered of rash, leucopenia, gastrointestinal upsets; especially anorexia and weight loss, color of hair change, seasickness, visual symptoms of halos around lights. The potential danger of the latter symptom is described by Zeller and Deering<sup>7</sup>; they recommended stopping the drug. However, Dr. David G. Cogan of the Massachusetts

Eye and Ear Infirmary states that it is safe to use it again after eye signs and symptoms have disappeared in smaller dosage with frequent slit lamp examinations, for evidence of new deposits in the cornea.

The absolute indications for stopping the drug are rash, leucopenia, anemia, and mental changes.

A recently recommended increasing dose schedule is offered to avoid serious complications by Dr. J. P. Young<sup>8</sup>. This is as follows:

<i>Total Weekly dose in mgm.</i>	<i>Method of Administration</i>	<i>Usual time on this dose</i>
93-187	31-63 mgm. Mon. Wed. Fri.	Used only if intolerant to 375
375	125 mgm. H.S. Mon. Wed. Fri.	2-13 weeks
750	250 mgm. H.S. Mon. Wed. Fri.	4 weeks or indefinitely
1500	250 mgm. gn. H.S. except Sun.	8 weeks or indefinitely
2250	(250 mgm. Tues. Thurs. Sat.	12 weeks or indefinitely
	(500 mgm. Mon. Wed. Fri.	
3000	500 mgm. gn H.S. except Sun.	Rarely increased beyond this dose

Chloroquine in dosage of .25 - .5 Gm. a day has been used in the treatment of twenty patients with rheumatoid arthritis. 70% of these patients were improved while on therapy. In 30% the drug had to be stopped because of toxic reaction.

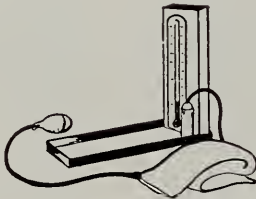
At the present time chloroquine should be considered an experimental drug and its use should be attended with at least monthly check ups to include skin exam, white count, hemoglobin, and careful questioning regarding visual or mental changes.

It is hoped that similar drugs with fewer toxic symptoms will be found even more effective in the treatment of rheumatoid arthritis.

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# Modern Surgery For Middle Ear Deafness

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The practice of otology from its infancy until the development of antibiotics was concerned primarily with the control of middle ear infections, mastoiditis, and the various complications arising from such infections. At the present time, acute surgical mastoiditis is a rarity. It occurs either in neglected cases or in cases where inadequate or intermittent antibiotic therapy has been used. Resistant bacteria and failure to do a myringotomy when indicated have continued to provide a few cases of acute surgical mastoiditis each year. The failure to recognize and properly treat secretory otitis media has led to recurrent middle ear infections, occasional mastoiditis, chronic hearing loss, particularly in children, and some permanent hearing loss due to a chronic adhesive otitis media. This paper is not primarily concerned with middle ear or mastoid infections, rather with reconstructive middle ear surgery for deafness caused by otosclerosis and chronic otitis media.

Modern otology began with the work of Lempert<sup>1</sup> who developed fenestration of the lateral semicircular canal for deafness caused by otosclerosis. Of historical interest, the first attempts at correcting otosclerotic deafness were done in Europe by Miot<sup>2</sup> in 1890. He recognized that otosclerotic deafness was caused by a fixation of the footplate of the stapes by an abnormal growth of bone across the stapediovestibular membrane. He and a few other workers at that time attempted a mobilization of the ankylosed stapedial footplate through a myringotomy incision. A few good results were obtained at that time. However, in the absence of meticulous aseptic surgery and antibiotics, many cases of purulent labyrinthitis were caused, and despite a few good results, this surgery was discontinued. In the early 1920's, interest again was developed in otosclerosis by Holmgren<sup>3</sup>, and Sourdille<sup>4</sup>. Rather than attempting to attack the obstructing otosclerosis at its source, the ankylosed footplate, they created with a two-stage operation a fenestra in the lateral semicircular canal. This procedure bypassed the otosclerotic focus by making a new fenestra or window into the inner ear. Their attempts were only partially successful, and a two-stage procedure was not appealing to the average patient.

In the early 1930's, Julius Lempert developed his one-stage fenestra nov-ovalis operation. The salient features of his procedure were an endaural incision and the tympano-meatal flap. Although most mastoid surgery had been done through a post-auricular incision,

he developed, after experience in removing obstructing exostoses of the ear canal, an incision which exposed the mastoid through the ear canal. He used the skin lining the posterior and superior ear canal walls as a flap connected to the drum, to cover a fenestra in the anterior end of the lateral semi-circular canal.

In the early 1950's, Samuel Rosen<sup>5</sup> developed a method of exposing the middle ear by an incision in the canal and reflection of the drum. At the time, he was particularly interested in tinnitus and felt that either section of the chorda tympani nerve or ablation of the tympanic plexus on the promontory of the middle ear might relieve distressing head noises. Although this has not stood the test of time, a method of exploratory tympanotomy was developed. In some questionable cases of otosclerosis, Dr. Rosen felt that an exploratory tympanotomy would allow him to adequately visualize the stapedial footplate area, and to determine whether or not clinical and surgical otosclerosis was present. This originally was done as a preliminary stage prior to doing a fenestration operation. With the middle ear exposed, he palpated the neck and head of the stapes to determine whether or not it was fixed. Much to his amazement, simple pressure applied to the stapes occasionally resulted in free movement of the stapedial footplate with marked improvement in hearing. He therefore continued his efforts and stimulated interest in stapes mobilization.

Strict asepsis and antisepsis are absolute essentials in surgery for otosclerosis. Infection following either a fenestration or a stapes mobilization may result in a purulent labyrinthitis and a dead ear. The structures involved are minute, and adequate visualization is impossible without brilliant illumination and magnification. Illumination was first provided by a Cameron headlight; magnification by a Zeiss loupe. The development of the binocular operating microscope in Germany provided intense illumination of the operative field, combined with a binocular or third-dimensional visualization of the middle ear structures in magnifications from 6X to 40X.

Middle ear deafness may be caused by secretory otitis media, simple perforation of the drum, chronic otitis media and otosclerosis. Secretory otitis media is caused by Eustachian tube obstruction due to edema following a cold, allergy, nasal polyps, adenoids, or a tumor of the nasopharynx. Acute middle ear infections sterilized by antibiotics may leave a middle ear filled with fluid. Myringotomy, inflation of the Eustachian tube, and aspiration of the fluid from the middle ear will result in

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an immediate improvement in hearing. Appropriate treatment should be undertaken to restore normal Eustachian tube patency. The insertion of a small polyethylene tube through a myringotomy incision into the middle ear is occasionally necessary in chronic secretory otitis media.

Acute perforation of the ear drum resulting from acute otitis media, blast injuries, traumatic injuries, or water injuries caused by diving or water skiing will usually heal spontaneously. Industrial perforations of the drum caused by a hot piece of slag will almost never heal spontaneously, will only rarely heal by office treatment, and usually require a myringoplasty. It is important not to use ear drops in acute perforations, as they may introduce infection into the middle ear. If infection is already present, it should be treated with antibiotic therapy.

Small central perforation of the drum can usually be closed by office treatment<sup>6</sup>. This consists of cauterizing the edges of the perforation with trichloroacetic acid to stimulate granulations, and the application of a cigarette paper splint which provides a surface under which these granulations may grow. An immediate improvement in the hearing and cessation of annoying tinnitus results with the application of the splint on the drum.

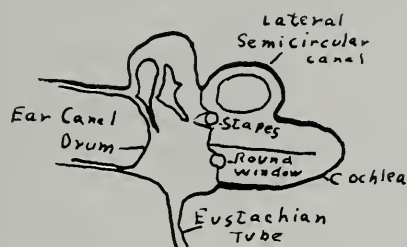
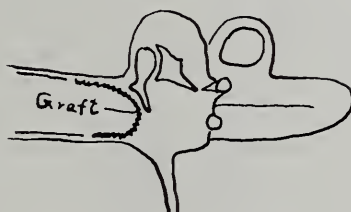
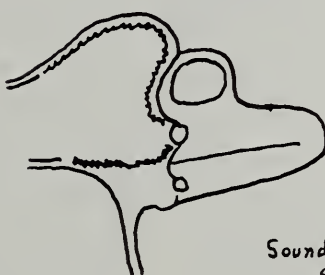
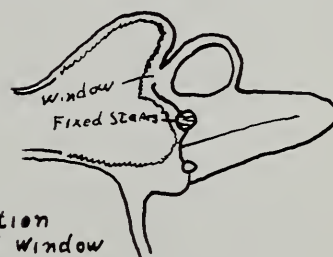
Tympanoplastic procedures, stapes mobilization, and fenestration are designed to improve hearing in middle ear or conductive deafness when the inner ear and nerve of hearing are good<sup>7,8</sup>. They are designed to improve hearing by corrective of a faulty sound conducting mechanism. Since the repair of a damaged sound conducting mechanism leading to a deaf inner ear will not result in an improvement in the hearing, it is essential to determine preoperatively inner ear function by bone conduction. If bone conduction is better than the air conduction, a chance for surgical improvement exists. This may be tested simply with a tuning fork or more accurately with an audiometer. Patients with conductive type deafness clearly understand speech that is loud enough. If a loud voice annoys a patient, and if his interpretation of speech does not improve, he characteristically has an inner ear, nerve, or perceptive type deafness. If the temporary application of a paper splint over a perforated drum improves the hearing, the integrity, continuity and free movability of the ossicular chain is present. This will dramatically demonstrate to the patient the hearing improvement that may result from a tympanoplasty<sup>9</sup>. If either no improvement occurs, or if there is diminished hearing following closure of the perforation with a splint, it means that there is either a discontinuity or fixation of the ossicular chain. In those large perforations of the drum in which the ossicles are missing or damaged, sound waves reach the oval window and round window at the same time. Hearing may be improved by decreasing the amount of sound pressure against the round window, by protecting it by inserting ointment or a moist cotton pledget into the round window niche. Tympanoplastic procedures

are divided into two groups<sup>10</sup>: Those that repair or restore the sound conducting mechanism of the drum and ossicular chain, and those that improve hearing by sound protection of the round window.

During the 1930's and 1940's, American otology was chiefly concerned with the development of techniques for the improvement of hearing in otosclerotic deafness. German otologists, particularly Wullstein<sup>11,12</sup> and Zollner<sup>13</sup>, were concerned with the physiological reconstruction of middle ears damaged by chronic disease. A system of five types of tympanoplasty was evolved. Type O, not considered a tympanoplasty by some, is called a canaloplasty. This procedure concerns itself with the reconstruction of an ear canal occluded by exostoses or atresia caused by cicatricial scarring of the canal due to trauma or infection. The essential features of this procedure are the removal of bony or cicatricial obstruction, followed by the application of a skin graft to line the ear canal. A Type 1 tympanoplasty, frequently referred to as a myringoplasty<sup>14,15</sup>, closes a large perforation of a drum when a normal functioning ossicular chain exists. Type 2 tympanoplasty, a tympano-incudoplasty, closes the perforation of the drum and applies the skin graft directly to the incus when the malleus or the joint between the malleus and incus has been destroyed by disease. Type 3 tympanoplasty, tympano-stapedioplasty or myringostapediopexy<sup>16</sup>, attaches the new drum directly to the stapes. This is commonly done in conjunction with a modified radical mastoidectomy. Frequently, enough of the drum is left so that it may be repositioned directly in contact with the stapes. If the crura of the stapes have been destroyed, it is sometimes possible to employ a remaining portion of incus or malleus to conduct sound from the drum to the stapedial footplate. A small piece of polyethylene tubing may be used to bridge this gap. Type 4 tympanoplasty, hypotympanoplasty, is used when no ossicular chain exists other than a movable stapedial footplate. The new drum (skin graft) or a drum remnant is used to cover or protect the round window. An air space is thus created in the lower portion of the middle ear or hypotympanum from the Eustachian tube to the round window. Type 5 tympanoplasty<sup>17</sup>, fenestration, is done when the ossicular chain has been destroyed, the oval window filled with irremovable scar tissue, and the round window is normal. The round window is protected in the same manner as in Type 4. In addition, a fenestration of the lateral semicircular canal is done. This is usually a two-stage procedure. When it is impossible to bridge the middle ear space with a graft, Rambo<sup>18,19</sup> uses a pedicle flap of temporal muscle and fascia to bridge the defect and cover the fenestra in the lateral semicircular canal. This procedure is called a musculoplasty.

A thin splint thickness graft has only a vertical capillary network. Such a graft will survive only when it receives nourishment from its base. A very thick split thickness, or a full thickness graft, however, has a capillary circulation parallel to the surface. Guilford and

Normal Ear

Type I  
MyringoplastyType II  
Tympano-Incudo-PlastyType III  
Tympano-Stapedio-Plasty  
Radical  
MastoidectomyType IV  
HypotympanoplastyType V  
FenestrationSound Protection  
of Round Window

Wright<sup>20,21</sup> have shown that this type of graft will bridge a defect provided that the margins of the graft receive adequate nourishment from their base and edges. Such a graft may be conveniently taken from the skin of the postauricular sulcus, or from the non hair-bearing area on the inner aspect of the upper arm. The epithelium covering the drum remnant and adjacent ear canal is carefully removed to prepare a nutrient bed for the graft. This is carefully positioned, making certain that the edges are not inverted, and held in place with packing applied firmly enough to maintain position, yet gently enough so that capillary circulation will not be impaired. A nearly total perforation of the drum may be closed with such a graft.

Either acute or chronic infection must be controlled before a tympanoplasty can be done. These grafts will not take in the presence of infection. The Eustachian tube must be patent and function normally in order to achieve a good result in any type of tympanoplasty. If the tube is not functioning properly, an air-containing middle ear will not result. The drum remnant or graft will become retracted, a chronic secretory otitis media will develop, and the graft will attach itself to the bony walls of the middle ear. Eustachian tube function should be checked preoperatively by inflation of the Eustachian tubes by having the patient blow his nose or by the use of a Politzer bag or a Eustachian tube catheter. X-ray controlled Eustachian tube clearance studies with the use of a contrast medium have been developed by Compere<sup>22</sup>.

The mastoid and middle ear surgery associated with

tympanoplasty must be microscopically excellent. The finest reconstructive procedure that covers infection, granulation, bone necrosis or cholesteatome is doomed to failure. When there is not adequate mucous membrane lining the middle ear, a graft of oral mucosa or conjunctiva or a vein graft may be used to line the middle ear. It is interesting to note that all of the various types of tympanoplasty have occasionally happened spontaneously with advantageous healing following chronic infection or radical or modified radical mastoidectomy. It was from the careful observation and interpretation of such cases that this extremely interesting field of middle ear surgery was developed<sup>23,24</sup>.

The myringoplasty, Type 1, is the most commonly used and most successful of all the tympanoplastic procedures. Normal or near normal hearing usually results. Although Type 2, tympano-incudoplasty, is rarely used, it also may achieve near normal hearing. Type 3, tympanostapedioplasty, is always done in association with a modified radical mastoidectomy. Near normal hearing is frequently achieved. Type 4, hypotympanoplasty, is usually done in association with a complete radical mastoidectomy; and although it does not give normal hearing, it enables a patient to understand most conversations at 10 to 15 feet. Type 5 tympanoplasty, fenestration, or musculoplasty are rarely used. When successful, they should give hearing similar to that in Type 4. It should be remembered Types 1 and 3 are most frequently used, and these usually give the best hearing improvement.

Three canaloplasties and eight myringoplasties have



recently been done at the Maine Medical Center. Many Type 3 tympanoplasties have been done in conjunction with modified radical mastoidectomy. A few Type 4 tympanoplasties have been done in conjunction with radical mastoidectomy. As yet, I have had no personal experience in Types 2, 5, and musculoplasty. I have been pleased and encouraged by the results obtained.

A brief study of the accompanying diagrams on tympanoplasty will graphically demonstrate these procedures.

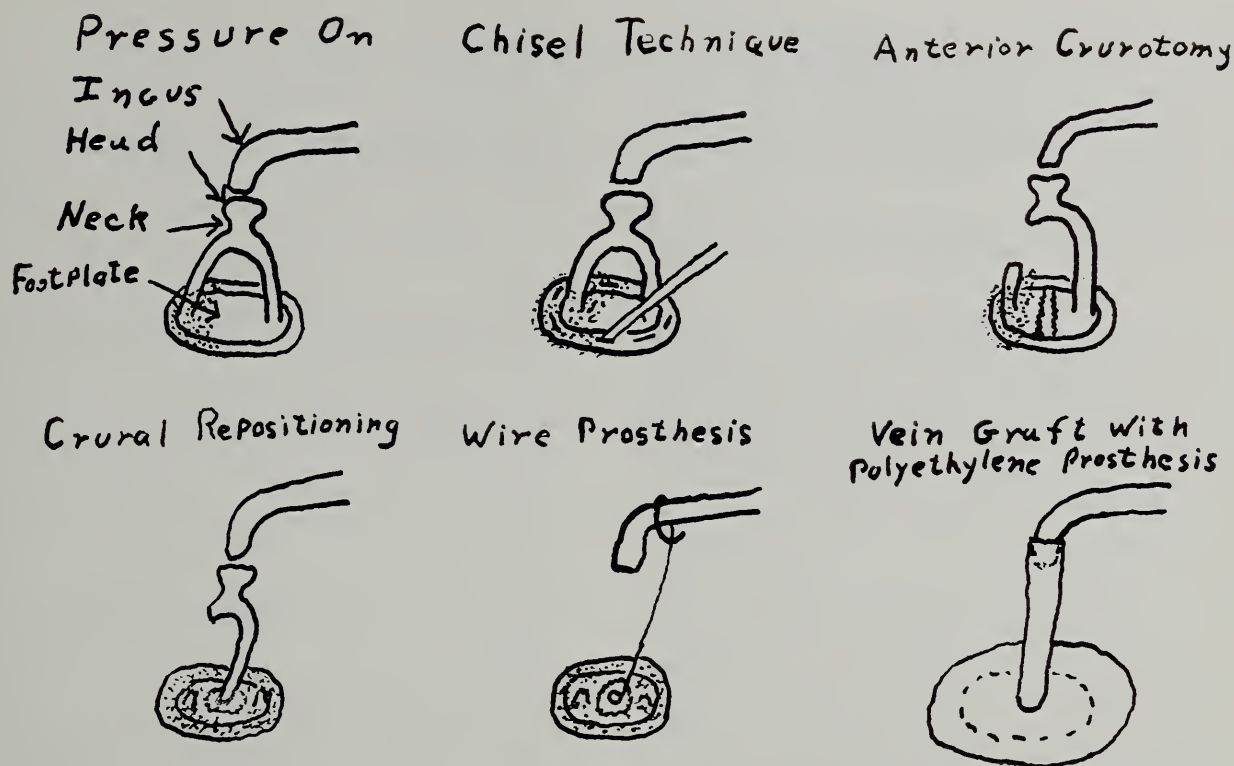
Deafness in otosclerosis is caused by an abnormal growth of bone across the stapedio-vestibular membrane, which immobilizes the stapes and seals the inner ear. This growth varies greatly in size, character and location<sup>25</sup>. It may be relatively thin and fix only one margin of the stapedial footplate, most commonly anteriorly. It may be thick enough to fix either one or both crura of the stapes. It may be extensive enough to completely obliterate the oval window. Rarely it also involves the round window, causing a total or nearly total deafness. It may sometimes involve the cochlea. The stapedial crura may be relatively strong, or they may be markedly atrophic. The oval window may be superficial and easily visualized, or it may be placed in a deep niche underneath the facial nerve, making visualization nearly impossible. The different anatomical and pathologic findings require individual judgment in each case<sup>26</sup>. While stapes surgery began as a stereotyped procedure, additional knowledge and experience has necessitated the development of an increasing number and variety of techniques.

The best possible result of a fenestration operation still leaves a 20 decibel hearing loss, or a 20 decibel difference between bone conduction and air conduction. Since socially adequate hearing does not occur below the 30 decibel level, a patient with diminished bone conduction will not have an ideal result from fenestration surgery. A successful stapes mobilization procedure, however, will ideally bring the preoperative air conduction up to the bone conduction level. This means that many patients unsuitable for fenestration surgery may have adequate hearing following a successful stapes mobilization procedure, even though their bone conduction may be diminished. Patients with a very marked hearing loss, caused partly by otosclerosis and partly by nerve involvement, may be benefited so that some hearing will be obtained through the use of a hearing aid, postoperatively, when a hearing aid has previously been worthless to them.

The patient is sedated. The ear is thoroughly prepped and strictest aseptic precautions are followed, as infection in the middle ear or labyrinth may result in a dead ear. Anesthesia consists of only one cubic centimeter of 2% xylocaine, mixed with 0.2 cc. of 1:1000 adrenalin. Shea has developed a speculum holder attached to the operating table which holds the speculum firmly in the ear and allows the operator the use of both hands. An incision is made in the posterior-superior ear canal wall, about 5 mm. from the annulus. This flap and at-

tached drum is elevated and reflected, exposing the middle ear. The postero-superior bony annulus obstructs adequate visualization of the footplate area. This is removed so that the footplate of the stapes, both crura of the stapes, stapedial tendon, lenticular process of the incus, facial nerve, chorda tympani nerve and the round window are seen. The drum is then replaced and the hearing is checked by audiometry to establish a base level for further testing after manipulation. The footplate area is carefully studied, to determine the anatomical and pathological conditions present. At the conclusion of the manipulation, the drum is replaced and another hearing test is done. If an adequate gain has not been established, further exploration and manipulation may be required. A small pledget of Gelfoam moistened with adrenalin is placed over the incision and the canal lightly packed with cotton. The procedure is not painful; patients may drop off to sleep. Empirin® compound with 0.5 grain of codeine is usually adequate for postoperative discomfort. A gram of chloramphenicol is given daily for four days postoperatively. Patients may occasionally complain of vertigo following the procedure, particularly if a great deal of work has been done on the footplate itself. Dramamine will usually alleviate this symptom. Stretching, manipulation or section of the chorda tympani nerve, which tends to obstruct the field, may cause a distressing metallic taste for a few weeks postoperatively. Two cases of death from suppurative meningitis and labyrinthitis have been reported<sup>27</sup>. A few cases of facial paralysis due to operative trauma have occurred. Approximately one-half to one per cent totally deaf ears have resulted in some large series. Diminished hearing following the procedure is usually associated with a postoperative serous labyrinthitis<sup>28</sup>. Approximately 3% of the patients undergoing stapes manipulation may have such a partial loss of hearing. The patient is discharged from the hospital on the first postoperative day. He is seen in a week in the office, when the ear canal is cleaned, and the hearing checked. Hearing is again checked in two weeks and any remaining crust is removed from the canal. The patient is then checked in two months, six months, and yearly. As the mastoid is not opened, postoperative care is at a minimum, and the patient has no restriction as to activity, particularly swimming.

Rosen's first attempts at stapes mobilization were done by pressure on the neck of the stapes, soon followed by pressure on the head, and by indirect pressure on the lenticular process of the incus. Those stapes which were fixed minimally were mobilized, with resultant improvement in hearing. Excessive pressures caused fractures of the crura of the stapes and unsuccessful results. Schuknecht<sup>29</sup>, Derlacki<sup>30</sup> and others went directly to the footplate, first attacking it with picks and probes, and later using tiny chisels and gouges to free the footplate through the otosclerotic focus. House used a micro-pneumatic hammer. Although early good results were obtained with these footplate techniques, re-



ankylosis, with subsequent hearing drop to the preoperative level occurred too frequently. Fowler<sup>31,32</sup> felt that a mobilization of the stapes which involved a fracture through the otosclerotic focus was doomed to eventual failure. Realizing that a footplate fracture will not heal, he removed a section of the anterior crus, fractured the stapes footplate through normal bone, and thereby achieved excellent results with the mobilization of the posterior portion of the footplate attached only to the posterior crus.

Rosen<sup>33</sup>, while making efforts to mobilize the entire footplate of the stapes, found occasionally that a tiny hole in the oval window would provide a release valve for mobilization and vibration of the inner ear fluid with resultant improved hearing even in the presence of a fixed stapedial footplate. There has been much controversy over this procedure, and it is not in general use.

After Fowler found that a small section of movable footplate attached to the ossicular chain provided excellent, long lasting hearing improvement, other workers, Farrior<sup>34</sup>, Schuknecht<sup>35</sup>, Portmann<sup>36</sup>, House and Juers<sup>37</sup>, fragmented the stapedial footplate and connected the loose footplate fragment to the ossicular chain by repositioning a fractured piece of crura to it, or removed the crura entirely and connected the footplate to the incus with a piece of polyethylene tubing or with a stainless steel or tantalum pin. As long as there is a tiny portion of normal stapedial footplate left, these procedures can be carried out. All of these newer procedures bypass the otosclerotic focus and make use of normal footplate.

If the entire footplate is involved with or replaced by otosclerosis, a fenestration operation has been advised

until recently. Shea<sup>38</sup>, however, has removed the entire footplate with a micro-drill, employing tiny diamond burrs. A small piece of vein is then removed from the back of the hand and used to cover the window. He then uses a small section of polyethylene tubing to maintain continuity between the vein graft and the incus. Tiny pledgets of Gelfoam are used to hold the graft in position. Excellent results have been attained with this technique. This is a monumental advance in stapes surgery.

Stapes surgery has been constantly changing since its inception seven years ago. Many of the unsuccessful results by earlier techniques may be improved by revisions, utilizing more modern techniques. It should be remembered, as Farrior<sup>39</sup> and Bellucci<sup>40</sup> point out, that there are specific pathological and anatomical indications for each of these various operations.

In the past two years, 35 stapes mobilization procedures have been done at the Maine Medical Center. Most of these procedures were done with the earlier methods of simple pressure on the incus, head, neck and the footplate of the stapes, or by the chisel techniques at the stapedial footplate. Failure to improve hearing in the immediate postoperative period, and regression of improved hearing in the first few postoperative months, in nearly 50% of these cases, has discouraged me from the use of these earlier procedures and encouraged me to make use of the more advanced techniques. I believe that a widening experience and utilization of by-passing techniques in stapes mobilization surgery will result in improved hearing for many patients suffering from otosclerotic deafness.

Lempert's fenestration operation continues to restore



hearing in otosclerotic deafness. It is still indicated in inoperable stapes with good inner ear function. It may be performed when stapes surgery has failed. Fifteen fenestration operations have been done at the Maine Medical Center in the past eight years with satisfactory results in most cases.

A study of the accompanying diagrams will graphically illustrate the preceding types of stapes surgery.

#### SUMMARY

Antibiotics have not only overcome most middle ear and mastoid infections with their resultant severe intracranial complications, but have also allowed the development of an entirely new field of middle ear surgery for the correction of deafness caused by otosclerosis and chronic otitis media. The sterilization of acute otitis media by antibiotics without the use of myringotomy has greatly increased the incidence of secretory otitis media. For the surgical restoration of hearing in conduction type deafness, several types of stapes operations are available, five types of tympanoplasty, and the fenestration operation. The operating microscope has demonstrated surgical pathology of the middle ear, significantly more variable than pathology of any other body cavity. Meticulous microscopic technique and profound surgical judgment are required to obtain the maximum restoration of hearing. These recent advances have made otology a dynamic, fascinating and growing specialty.

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# Post Necrotic Cirrhosis

## Case Presentation And Review Of Literature

JAMES H. BONNEY, M.D.\*

Cirrhosis following massive and submassive liver collapse has been recognized as a disease entity for many years, but it now seems to be more and more common. The pathological picture is that of irregular coarse nodules of uneven distribution with irregular intervening bands of connecting tissue. The condition has had many names, such as: toxic cirrhosis, healed yellow atrophy, coarse nodular cirrhosis, post collapse cirrhosis, multiple nodular hyperplasia, chronic liver atrophy, necrotic hepatitis, subacute diffuse necrosis of the liver, and post hepatic cirrhosis. In 1943 Karsner suggested the term post-necrotic cirrhosis<sup>25</sup>. He stated that the term "may not be good, but it is better than the others," and seems to be most appropriate from the pathologic point of view.

### CASE REPORT

S.L. a 74 year old white female entered the hospital complaining of abdominal distension and constipation of three weeks duration. During this time she had also noticed considerable belching and flatus. Four weeks previously she had noticed one episode of pale putty-colored stools. The color returned to normal, but then she became constipated. After treatment with laxatives and enemas, her stools were again putty-colored, and dark urine was noted. She continued to have intermittent constipation and feelings of distension. On the day of admission she noted gradual swelling of her abdomen and ankle edema for the first time. Past history revealed no jaundice, evidence of liver damage, or excessive alcoholic intake.

Physical examination revealed a well-developed, well-nourished 74 year old white female who was alert and co-operative. Examination of the abdomen revealed that it was distended, tense, and hyperresonant. Rectal examination revealed small hemorrhoids at the anal border. Slight pitting edema was noted over the ankles and tibias.

Laboratory: C.B.C. and urinalysis were unremarkable; Sed. rate, 34; BUN, 18; bilirubin, 2.8; urobilinogen, 0.7; BSP, 13%; rhymol flocc., +4; cephal. flocc., +4; total protein, 7.1; albumin, 1.9; globulin, 5.2; alkaline phosphatase, 13.3; thymol turbidity, 38. X-rays revealed a non-functioning gall bladder, and a small hiatal hernia.

The patient was treated medically with low fat, high carbohydrate diet, vitamins and methods to keep bowels

evacuated. The abdominal distension and ankle edema remained. A laparotomy was performed on the 16th hospital day. A pale nodular liver and a large distended gall bladder without stones were noted. A liver biopsy and cholecystostomy were performed. The patient's post-operative recovery was slow but progressive. Medical treatment of diet, vitamins, and liver extract were instituted. The A:G ratio improved and the patient slowly began ambulating. On the 36th post-operative day the patient had massive hematemesis and expired.

Autopsy revealed esophageal varices with rupture and hemorrhage into the upper G.I. tract. There was also 3,000 c.c. of ascitic fluid. The liver weighed 830 gms. and was whitish pink in color. There were numerous variable-sized nodules with much scarring between them. The largest nodule was 5cm. in diameter. The surface was extremely firm and sectioning revealed a firm, tan liver parenchyma which had completely lost its architecture and vascular pattern. The various sized nodules were circumscribed with a whitish pink scar tissue. All the nodules appeared to be made up of liver tissue which was brownish-tan in color, firm to palpation and relatively avascular in appearance. No evidence of neoplastic disease was noted. Microscopically the nodules revealed proliferating liver parenchyma separated by moderately thick bands of fine connective tissue containing many bile ducts and a diffuse infiltrate of chronic inflammatory cells. The capsule was thickened and chronically inflamed. These findings were consistent with the diagnosis of postnecrotic cirrhosis.

### DISCUSSION

For many years the entity of post-necrotic cirrhosis was not readily agreed on. It had been reported as following epidemics of viral hepatitis, but primarily began to be recognized with the reporting of single or small groups of cases. A recent report deals with 221 cases observed at the Boston City Hospital from 1917 to 1956<sup>26</sup>. This is probably one of the largest groups studied. It is now believed to be 5 to 10% or more of all cases of cirrhosis.

In the majority of instances the etiology and the development of postnecrotic cirrhosis is not completely understood. The most commonly implicated etiological factor is either homologous serum jaundice or epidemic hepatitis. Poor nutrition, alcoholism or other chemical toxins have also been related to post-necrotic cirrhosis. Lucke believed that idiopathic yellow atrophy represent-

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ed the end stage of fatal epidemic hepatitis, but he also concluded that recovery from epidemic hepatitis was complete and cirrhosis did not develop<sup>8</sup>. Other authors also seemed to indicate that there was little relationship between the two entities<sup>16,17,18</sup>.

In 1938, however, Bloomfield presented what he believed to be the possible clinical courses an attack of hepatitis may take<sup>10</sup>:

- 1) Death
- 2) Recovery
- 3) Remissions and exacerbations leading to cirrhosis.
- 4) Apparent recovery from the acute phase with cirrhosis appearing years later.
- 5) Latent hepatitis without symptoms smoldering along to cirrhosis.

Little attention was given to this work because his cases were not clearcut in that all his patients gave a history of chronic alcoholism. More recent authors<sup>7,8,10</sup> showed the development of cirrhosis from hepatitis while under observation, and now it is generally believed that cirrhosis is seen more frequently in patients who give a history of hepatitis than in those who do not, but the actual ratio is unknown<sup>7,8,10</sup>. Twenty-four percent in one study<sup>26</sup> gave a history of previous jaundice or hepatitis. The interlude following the initial liver insult is extremely variable. Some have described as short as a few months and as long as 70 years. Why some cases of acute hepatitis develop cirrhosis and others do not is not fully understood. Some have postulated the idea of a combination of factors such as hepatitis plus some other agent. These factors have been considered to be: older age, poor treatment of hepatitis, intercurrent infection, too much activity, serum homologous jaundice plus epidemic hepatitis, poor nutrition, alcohol, and other chemical toxins. Although the etiology and development of post-necrotic cirrhosis may be vague, the final pathologic picture seems to indicate that at one time the liver suffered necrosis from some toxic substance or agent.

Some authors believe that post-necrotic cirrhosis is found equally in either sex; however Patek and Ratnoff<sup>19</sup> believe that it occurs about 60% of the time in females, while MacDonald and Mallory<sup>26</sup> found only 41% in females. The age incidence of postnecrotic cirrhosis has not been well established. In one group of cases the mean age was 36<sup>11</sup>. Another group ranged in age from 12-67<sup>15</sup>. Ratnoff and Patek<sup>19</sup> found that 18 of their 45 patients were over 50 years of age. The larger series<sup>26</sup> revealed the predominant age to be between 50 to 79 which included 75% of the cases.

The clinical symptoms of postnecrotic cirrhosis may run a "relentless, rapid course"<sup>11</sup> or remain latent for many years and appearing long after the initial hepatic insult if one has occurred or is remembered<sup>6</sup>. The clinical history may begin with acute hepatitis and end with death or it may have an insidious onset late in life at which time it is difficult to differentiate from Laennec's. Once symptoms have developed, however, the

clinical course may lead rapidly to the patient's demise. One study reported the duration of illness in 54% of the patients to be less than 6 months and 80% less than 2 years<sup>25</sup>. In this same study the average duration of life after admission to the hospital was 22 days. Another report states that the diagnosis is compatible with normal life but once symptoms have developed the prognosis is poor<sup>19</sup>. One-third died within one year and only 25% survived five years.

The chief complaint of the patient presented was abdominal distension and distress which has been reported as 80%<sup>19</sup>, 17%<sup>26</sup>, and 6%<sup>11</sup>. Jaundice was absent in this case but has been reported as high as 89%<sup>19</sup>. Constipation, which also was a major complaint in our patient, is reported in only 13% of the cases<sup>19</sup>. Ascites, as the first major symptom has been reported as present in 3%<sup>11</sup>, 70%<sup>26</sup>, and 92%<sup>19</sup>. Edema has been noted in 71%<sup>19</sup>. Palpable liver and spleen have been reported as 89% and 42% respectively<sup>19</sup>. One author states that he found a reversed A:G ratio in 28% of his cases and 34% had a serum globulin greater than 4 gms.%<sup>11</sup>. Ratnoff and Patek found that 20 of their 45 cases had a serum globulin greater than 4.1 gms.%. MacDonald and Mallory did not find that the globulin was excessively high in a significant number of their patients<sup>26</sup>.

Esophageal varices have been noted to be present in 52% of the cases and cause of death in 26%<sup>26</sup>. One author states that only 16.3% of his cases died from bleeding of esophageal varices<sup>11</sup>. Other main causes of death have been quoted as: hepatic insufficiency, 81.4%<sup>11</sup>; hemorrhage other than varices, 2.3%<sup>11</sup>; infections, 29%<sup>26</sup>.

The pathological picture of the liver of the patient presented with its irregular nodules of variable size agrees with the pathological picture of most authors<sup>4,7,11,26</sup>. It is believed by some that the nodules can become so finely granular that then it is difficult to detect from Laennec's cirrhosis<sup>11</sup>. It is believed, however, that this would have to be an extremely severe form of post-necrotic cirrhosis.

#### SUMMARY

A case of post-necrotic cirrhosis is presented. The clinical, laboratory, and pathological aspects are compared to those found in the literature. It is presented as an addition to the growing number of such cases and aid in the understanding of the clinical and anatomical entity known as post-necrotic cirrhosis.

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*Continued on Page 299*

# Water Intoxication From Enema

## Report Of A Case In A Four Year Old Male Child

GEORGE W. HALLETT, JR., M.D.\*

The first recognized death from an enema solution was reported by Jolley<sup>1</sup> in the *British Medical Journal* in 1952. This case occurred in a 4 year old child following the administration of approximately 850 cc of soapsuds solution. The skin became cool and damp, and the patient vomited dark fluid. Seven hours later coma, convulsions, and polyuria developed; and death resulted 20 hours after the enema. Jolley concluded that death had resulted from water intoxication, and advised treatment of such reactions with intravenous hypertonic sodium chloride.

Hiatt<sup>2</sup> in 1953, reported nine cases of water intoxication from enemas, all of which occurred in known cases of congenital megacolon. The average age of the patients was four years, and death resulted in two cases. Hiatt recommended use of isotonic enema solutions in cases of congenital megacolon.

In December, 1958, Ziskind and Gellis<sup>3</sup> reported three cases of water intoxication from enemata, and also conducted a study on the differences in response to hypotonic solutions of the normal bowel mucosa, as opposed to the constipated bowel. Tap water enemas were administered to 11 normal children, and to 5 children with a history of severe and chronic constipation, and serum electrolyte values were studied. Enemas were given in amounts of 3.5% of body weight. Children with normal bowel function showed no significant electrolyte changes one hour following water administration. But all five children with chronic constipation had a decrease in the serum sodium following the tap water enemas. The responsible factors were felt to be the increased absorptive bowel surface due to dilatation, and the reduced peristalsis resulting in longer contact of water with mucosa. Gellis recommended 2% to 5% saline solutions intravenously to restore electrolyte balance.

The symptoms of water intoxication as described by these authors include weakness, headache, lassitude, vomiting, pallor, perspiration, polyuria, syncope, coma and convulsions. The physiological changes responsible for this clinical picture have been felt to be the following:

a. — The presence of hypotonic fluid in the rectum causes electrolytes to pass from the extracellular space into the bowel; and, conversely, bowel water to cross into the extracellular and intravascular spaces.

b. — Following establishment of osmotic equilibrium (during which time serum electrolyte values have been reduced in concentration) water and electrolyte remaining in the bowel are absorbed slowly into the circulation.

c. — The extracellular fluid osmotic pressure, being less than the intracellular fluid osmotic pressure, attempts to reestablish tonicity — and water passes into the cells. It is this depression of cellular electrolyte values which causes some of the symptoms of water intoxication; and the physical swelling of the cells in a restricted space such as the cranial vault causes increased intracranial pressure, and accounts for the remainder of the symptomatology.

### REPORT OF A CASE

On 3/12/60 a four year old male was seen in the accident ward of the Maine Medical Center with a chief complaint of vomiting. The mother gave a history of chronic constipation commencing at two years of age, which had been treated with laxatives, suppositories, enemas, and various psychological means. Because of the nature of the constipation, no studies had been performed to rule out congenital megacolon. At times, the patient had gone as long as a month between bowel movements.

As of the day of admission, the patient had not had a bowel movement for two weeks, and was anorexic, uncomfortable, and distended. Ten hours before admission, he was given an enema consisting of 1 quart of tap water with soapsuds, which was completely retained. Two hours later, the patient developed vomiting, which became progressively severe, and abdominal discomfort worsened. Nine hours after the enema, a generalized convulsion occurred lasting about one or two minutes.

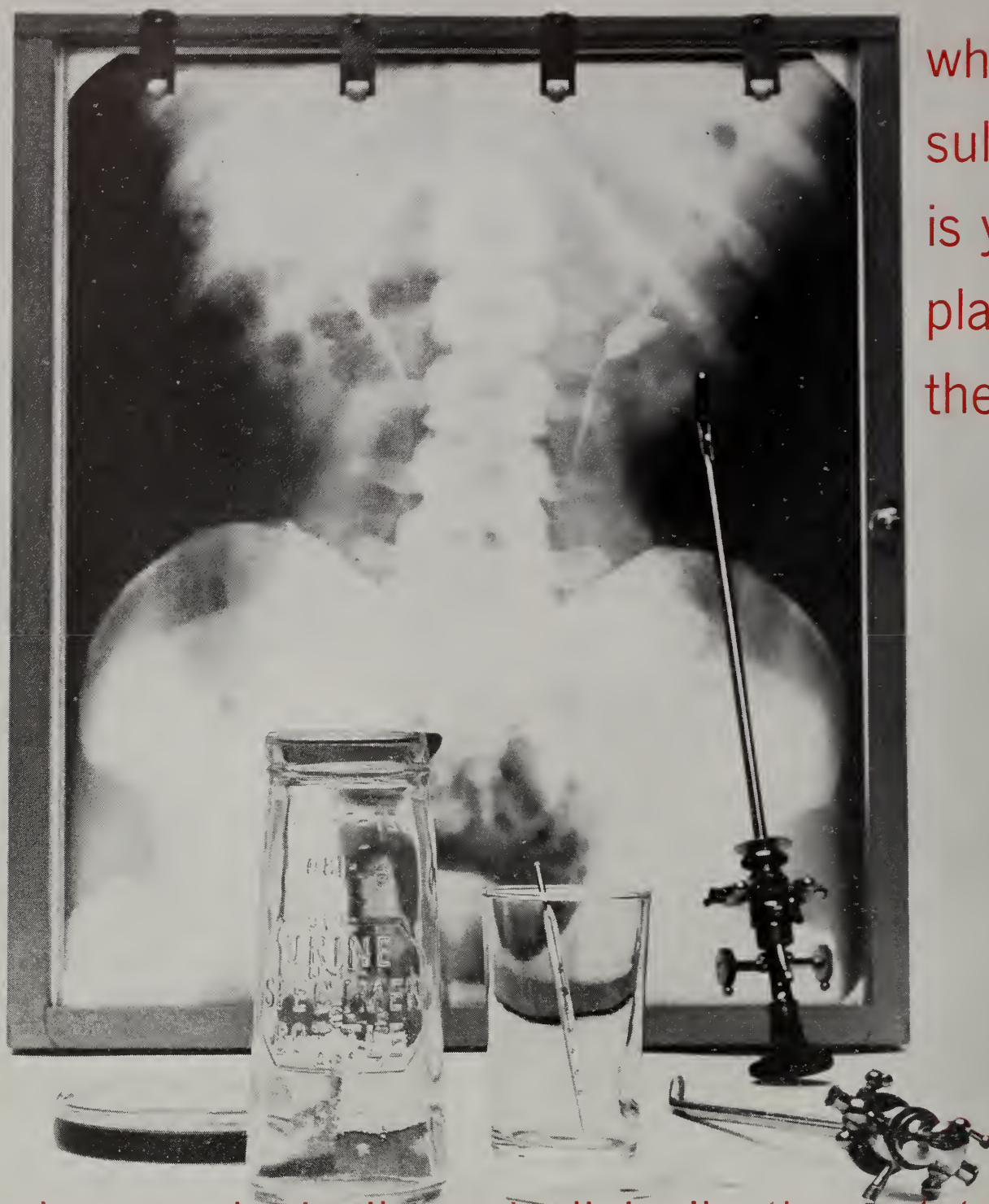
On physical examination (prior to the convulsion) patient was a well developed, pale, unhappy four year old male able to sit by himself and with no evident abnormalities except a soft, lumpy, slightly distended abdomen. Peristalsis was slightly increased, and rectal examination was negative except that the lower rectum felt very "roomy." There was no fecal impaction, and the temperature was 98° rectally.

Following the first convulsion, which occurred in the accident ward, the patient became poorly responsive, and unable to sit. Rectal temperature fell to 96° F, and the skin became cool and mottled. Urine was examined and showed a specific gravity of 1.026, Ph 5.5, 4 plus acetone, rare rbc, and 4-8 wbc. C.B.C. showed 9.4 G

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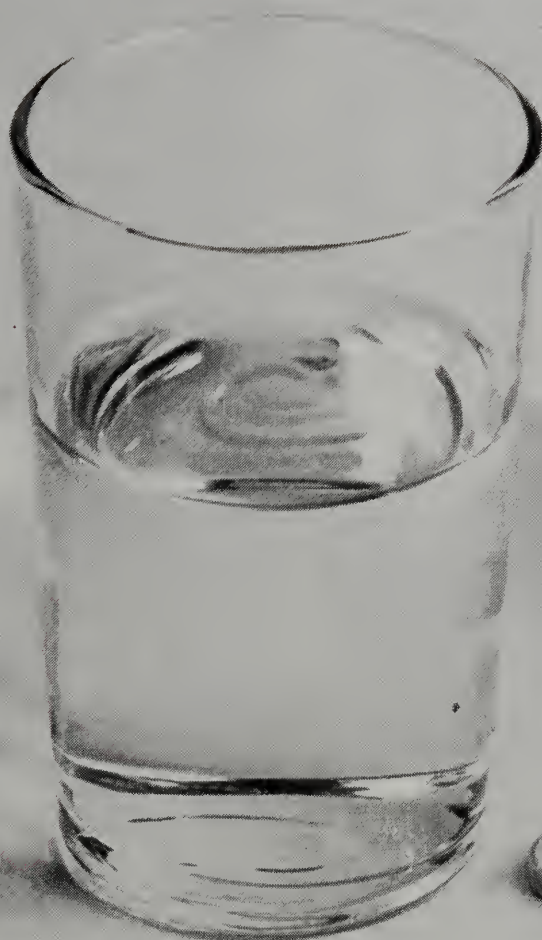
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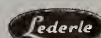
KYNEX Acetyl Pediatric Suspension, cherry-flavored, 250 mg. sulfamethoxypyridazine activity per teaspoonful (5 cc.). Bottles of 4 and 16 fl. oz. Recommended Dosage: Children under 80 lbs.: 1 teaspoonful (250 mg.) for each 20 lb. body weight, the first day, and  $\frac{1}{2}$  teaspoonful per 20 lb. per day thereafter. For children 80 lbs. and over: 4 teaspoonfuls (1.0 Gm.) initially and 2 teaspoonfuls daily thereafter. Give immediately after a meal.

# KYNEX<sup>®</sup>

Sulfamethoxypyridazine Lederle

NEW—for acute G.U. infection AZO-KYNEX<sup>®</sup> Phenylazodiaminopyridine HCl—Sulfamethoxypyridazine Tablets, contains 125 mg. KYNEX in the shell with 150 mg. phenylazodiaminopyridine HCl in the core. Dosage: 2 tablets q.i.d. the first day; 1 tablet q.i.d. thereafter.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York





of hemoglobin, 15,700 wbc, 92% polys, and 8% lymphocytes.

The initial impressions was that the patient was suffering from habit constipation and water intoxication, resulting from the enema. However, as the patient was not voiding in large amounts, and as the specific gravity of the urine at this juncture was high, it was not possible to make an unequivocal diagnosis. Hence, temporizing solutions were started intravenously — first normal saline, and then 5% Ionosol® solution (Abbott). The completion of laboratory studies showed the following values: CO<sub>2</sub> combining power 21.8 meq/L; sodium 111 meq/L; chloride 89 meq/L; potassium 4.8 meq/L; and B.U.N. 4 mg.%. These findings confirmed the clinical impression of water intoxication and extreme hemodilution.

During the first 10 hours of admission (prior to the obtaining of serum electrolytes) patient had a considerable number of grand mal and petit mal convulsions. His temperature stayed subnormal, his body cool, and his legs and arms were held stiffly in flexion. Pupils were dilated and unequal, and he did not appear able to see. Blood pressure, pulse, and respirations were within normal limits. Following confirmation of the clinical impression by serum electrolyte values, a switch was made to 3% normal saline solution. After 300 cc of this solution was given over a 4 hour period, serum electrolytes were repeated, and the following values obtained: sodium 128 meq/L; chloride 95 meq/L; potassium 4.35 meq/L. As there was still some deficiency of sodium and chloride, 200 cc more of 3% NSS were given (making a total of 500 cc). A change was then made to 5% Ionosol B®, particularly in view of the dropping potassium level. Fifteen hours later, CO<sub>2</sub> was 20.9 meq/L; sodium 139 meq/L; chloride 107 meq/L; potassium 4.1 meq/L and B.U.N. 16 mg.%.

The administration of 3% sodium chloride solution seemed to result in the excretion of large amounts of dilute (specific gravity 1.002) urine. Convulsions gradually ceased, and stiffness subsided. Temperature rose from subnormal levels to 100-102° where it re-

mained for the next five days. Vision and mentation gradually returned towards normal. A transient stiff neck cleared spontaneously, and was not explainable on the basis of spinal fluid (normal) or cervical spine x-rays (normal). At the time of discharge, patient had regained almost all of his normal abilities except that some visual disturbance seemed to persist.

#### COMMENT

The use of enemas in cases of childhood constipation carries great risk if the constipation is chronic, and the enema solution hypotonic. Ordinary tap water is suitable for an acute problem of bowel cleansing — but carries elements of danger if used in an atonic, dilated bowel. Isotonic salt solution, (made by dissolving two level teaspoons of salt to a quart of water) is preferable under doubtful circumstances, and may even prevent loss of life under certain conditions. In the event of diagnosis of water intoxication, intravenous hypertonic saline (2% to 5%) will reestablish isotonicity and electrolyte balance. Serum ion levels should be closely followed during the treatment period.

#### SUMMARY

A case of water intoxication due to tap water enema is presented.

The physiological changes resulting from administration of hypotonic fluids are discussed, and the difference in absorption powers between normal and dilated bowel is emphasized.

The precautionary use of isotonic enema fluids under most circumstances is advised.

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131 State Street, Portland, Maine

# Clinical Pathological Conference

## PRESENTATION OF CASE

This 75-year-old white widower was admitted to the hospital on Jan. 12, brought in by police ambulance from his rooming house, where he had been living alone. The ambulance had been called by his nephew, who found the patient in acute respiratory distress in his room, and unresponsive. No further history was available at the time of admission.

Physical examination on admission revealed that the temperature was 98.8°, pulse 100 and irregular, blood pressure 132/70, respirations 48. He was a thin elderly male, in acute respiratory distress, unresponsive, with coarse audible rhonchi. Positive physical findings included small but equal pupils, reacting sluggishly, and poorly-visualized fundi. There was edentia. The lungs were dull in the left posterior lung field and axilla, with decreased to absent breath sounds, and many coarse inspiratory rales and rhonchi throughout both chests, more marked on the right. The heart was enlarged in the anterior axillary line; rhythm was irregular, with many premature beats. The liver was down 2-3 finger-breadths. There was no peripheral edema. Localizing neurological signs were absent, but there was some generalized hyporeflexia. The prostate was felt to be enlarged 2x, and the stool was guaiac negative on the finger specimen.

X-Ray admission showed moderate cardiomegaly and congestive failure, with the possibility of diffuse bronchopneumonia. Electrocardiogram showed sinus tachycardia, with auricular and ventricular premature beats, interventricular block, and marked left axis deviation, with horizontal electrical pattern.

Laboratory work on admission revealed hemoglobin 11.7 gm., white blood count 12,600, hematocrit 39; differential of 7% metamyelocytes, 37% bands, 47% segmented, 8% lymphocytes, and 1% monocytes.

Treatment was initiated with aminophyllin, Chloromycetin®, penicillin, streptomycin, and the patient placed in an oxygen tent. It was felt that he responded fairly well the following day, although his lungs still showed many medium and large rhonchi.

Blood chemistries on the 13th showed: B.U.N. 50 mg.%; CO<sub>2</sub> combining power 28.4 mEq/l., chlorides 80 mEq/l., potassium 5.5 mEq/l., and sodium 130 mEq/l. Urine: pH 5.5; specific gravity 1.014; albumin 250 mg.; many coarse and finely granular casts; loaded with RBC.; 4-6 WBC. and clumps. Sedimentation rate (corrected) 40 mm/hr. Repeat blood count on the 13th showed hemoglobin 11 gm.; white blood count 27,600, with 83% neutrophils. It was also noted on that day that he would not take oral feedings.

With continuation of his therapy he showed gradual improvement over the next 24 hours, and was felt to

be brighter and more responsive, and talked to the doctors, but was still very reluctant to eat. Sputum culture grew out pneumococci and alpha streptococci, which were sensitive to most of the antibiotics.

Repeated chemistries were followed during this period. On Jan. 14, CO<sub>2</sub> was 20.4, chlorides 80, potassium 5.6, and sodium 135 mEq/l. On Jan. 18, CO<sub>2</sub> was 30.6, chlorides 61, potassium 5.6, sodium 102 mEq/l., and B.U.N. 20 mg.%. On the previous days a good output had been maintained with 5% dextrose and water, and 5% dextrose and saline, but after the addition of 500 cc. of 3% sodium chloride on the 19th, the CO<sub>2</sub> was 34, chlorides 79, potassium 5.2, and sodium 143 mEq/l.

During the 22nd it was noted that his abdomen was markedly distended, with depressed sounds. On that day portable films of the abdomen showed diffuse distension of small and large bowel with gas, apparently as far down as the rectum, with fluid levels primarily in the colon in the decubitus position; later films that day showed a similar picture, but with Levine tube present in the stomach. At this time guaiac was 2-3 plus. Surgical consultant performed a sigmoidoscopy later that day, up to 14 cm., revealing a slightly hyperemic bowel, which was very spastic. No evidence of mechanical obstruction was noted on sigmoidoscopy. The abdomen was felt to be markedly distended, with occasional high-pitched rushes, and there was gas in the rectum. Urinary output continued good during this period, and Levine tube drainage was continued. The blood pressure remained good during this period, ranging from 110/64 to 140/80.

On Jan. 24 his urinary output, which had previously been good, fell to 545 cc., with an intake of 2400 cc.; it was noted that he put out 1400 cc. from the Levine tube, and was still distended. He continued to put out large amounts from the Levine tube, and little urine, with electrolytes on the 25th showing sodium of 142 mEq/l. and chlorides still low at 86 mEq/l. On the following day CO<sub>2</sub> was 35.5, chlorides 99, potassium 4.1, sodium 145 mEq/l., and B.U.N. 80 mg.%.

Re-examination of the abdomen by X-Ray again showed large and small bowel distention, but this was felt to be considerably decreased since the previous study. The patient's color continued poor, he became nauseated, with a weak pulse and gasping breath, and expired at 10 a.m. on Jan. 26.

## CLINICAL DISCUSSION: DR. DOUGLAS PENNOYER

This 75-year-old man was admitted, unresponsive, with no past history available, and with findings consistent with either a diffuse bronchopneumonia or congestive failure, or both. During his first few days in



the hospital he improved after being treated with antibiotics, but without specific cardiac medications. For the entire two weeks of his hospital stay he did not eat, and was maintained on parenteral feedings. However, he did not fare too badly for his first 10 days in the hospital, except for some profound shifts in his electrolytes. Then, about the tenth hospital day, he developed abdominal distention, and died four days later.

From the information available, it appears that he did have a pneumonia on admission, probably pneumococcal in origin. The elevated white blood count, with marked shift to the left; the X-Ray consistent with bronchopneumonia; the sputum culture growing out pneumococci; and most important, the patient's improvement with antibiotics — all are evidence supporting a pneumonia; though the absence of fever, the disappearance of rales after 24 hours, and a chest X-Ray which showed no significant improvement ten days after admission, are somewhat against it.

Very possibly a pneumonia may have precipitated some congestive failure in a man who probably had some pre-existing arteriosclerotic heart disease. This man is too old to try to explain all his problems in terms of a single disease entity. The enlarged heart by X-Ray, the marked left axis deviation in the electrocardiogram, and the interventricular block, are evidence for some pre-existing heart disease. The urinary findings of albuminuria, casts, microscopic hematuria, without significant numbers of white blood cells, and the elevated B.U.N., probably indicated arteriosclerotic renal changes. The hematuria may also have been secondary to his prostate enlargement, with some prostatitis. We have no other evidence for a neoplasm of the urinary tract or pyelonephritis. In any event, we can probably safely say that he had arteriosclerotic cardiovascular disease; a bilateral diffuse bronchopneumonia, which was resolving by the time of his death; arterionephrosclerosis, and some possible arteriolar nephrosclerosis; and benign prostatic hypertrophy.

The electrolyte changes, most notably, the profoundly low chlorides, seem to reflect a respiratory acidosis, probably chronic as well as acute. The persistently low chlorides, the elevated carbon dioxide combining power, and the acid urine, are evidence of the kidney's efforts to compensate for the lungs' inability to excrete carbon dioxide. Another possible cause of such a low chloride is through chronic loss of gastric secretions, but we have no evidence for this. So we can add to our clinical diagnoses, a moderately severe respiratory acidosis, probably secondary to chronic congestive failure, and bronchopneumonia. The serum potassium remained fairly stable and somewhat elevated throughout his hospital course, and this elevation was probably a result of his renal disease.

The serum sodium took some interesting gyrations. It generally stayed slightly below normal except terminally, it might be noted, it was normal. We can congratulate the service that the patient died in good elec-

trolyte balance. On his sixth hospital day the serum sodium dropped precipitously to 102 mEq/liter. At the same time the chlorides dropped to 61 mEq/liter and the B.U.N. to 20 mg.%. The most frequently-encountered electrolyte abnormality of this sort is laboratory error. With such a rapid fall of the serum sodium to even just 120 mEq/liter so-called "water intoxication" with coma and convulsions can occur. During the day prior to this sudden fall in sodium, the patient had been receiving parenteral feedings of water and saline infusions, with good urinary output. Most likely, this sudden shift of electrolytes was due to the overadministration of hypotonic solutions, with dilution of body fluids. Supporting this is the fact that the condition was corrected within 24 hours by the administration of hypertonic saline. This sudden drop in serum sodium may have been aggravated by his relative starvation, chronic renal insufficiency, and possibly chronic congestive heart failure. Adrenal insufficiency as a cause of his electrolyte abnormalities cannot be excluded from the data available.

Several days after getting his electrolytes straightened out, the patient then developed new problems. His abdomen became markedly distended, with diminished bowel sounds and with X-Rays showing distension of both large and small bowel, with fluid levels. A stool guaiac which had been negative on admission became 2-3 plus. A sigmoidoscopy to 14 cm. showed spastic bowel and some hyperemia of the mucosa. The patient apparently had no abdominal pain, cramps, or tenderness, passed no stool, but passed some gas per rectal tube on the day prior to death. He was treated with Levine tube drainage. He did satisfactorily for two days, with good urinary output and no signs of shock. On the third day he remained distended, drained large amounts from his Levine tube, and developed oliguria. On the 14th hospital day, and four days after the onset of his abdominal distention, he became nauseated, his pulse became weak, and gasping for breath, he expired. On the day of his death his  $\text{CO}_2$  was still elevated and the B.U.N. had risen to 80 mg.%, but his sodium, potassium and chlorides were normal.

The question now is what was the cause of the terminal episode? The absence of pain and tenderness, the diminished bowel sounds, with X-Rays showing gas distributed throughout the bowel, certainly suggests a paralytic ileus, as opposed to a mechanical obstruction. What are some possible causes of ileus? A primary peritonitis or ileus secondary to bronchopneumonia are unlikely, particularly after his antibiotic therapy. A peritonitis secondary to a perforated viscus would be unlikely, considering the benign onset of his distension. A mesenteric vascular occlusion is possible. A mesenteric occlusion can have an insidious onset, but more likely, it is sudden and catastrophic. Pain is almost always a prominent symptom, along with vomiting and the passage of liquid stool. The X-Ray in addition to showing bowel distension, will often show free fluid. The bowel

distension is in this case more than I would expect with a mesenteric occlusion. Appendicitis is a possibility; in the older age group the abdominal tenderness of appendicitis may be minimal or later in appearance, and this diagnosis must be kept in mind.

In an elderly person who has taken no oral feedings for 10 days, and who received large amounts of antibiotics, a pseudomembranous entero-colitis is a good possibility. However, I would expect an enterocolitis in which diarrhea had not yet developed to have caused a more fulminating course than this man had. Electrolyte disturbances of uremia are not likely causes of this man's abdominal problems, since his electrolyte abnormalities had been straightened out at the time he developed his distension, and his uremia was never very marked.

We have no good explanation for an ileus as a cause of his distension. The X-Rays show distension of the entire colon and possibly rectum. We next have to consider the possibility of a mechanical obstruction of the left colon. The most common cause of obstruction of the descending colon, including sigmoid, would be carcinoma. The sudden onset of the obstruction is against a carcinoma, and a negative sigmoidoscopy to 14 cm. probably rules out at least half of the carcinomas of the colon. The next two most common causes of left colon obstruction are adhesions and diverticulitis, and these seem unlikely; there had been no previous abdominal surgery to cause adhesions, and the absence of pain seems against diverticulitis. That leaves sigmoid volvulus as the next most common cause of left colon obstruction. There are two major clinical types of sigmoid volvulus. One is an acute fulminating type, usually occurring in young people: sudden onset, with a rapid course, with early vomiting, diffuse abdominal pain, tenderness, and marked prostration. Gangrene of the sigmoid develops early, and the patient usually presents a picture of an abdominal catastrophe or a perforated viscus. The other type of sigmoid volvulus is a subacute progressive type, usually occurring in old patients; it has a more gradual, even insidious onset. Gangrene develops more slowly, and vomiting occurs late in the course of the disease. Spontaneous detorsion can occur, only to be followed by a recurrent volvulus. In an elderly person suspected of having an obstruction of the left colon, with extreme abdominal distension, sigmoid volvulus must be considered. Fever, leukocytosis, and signs of peritoneal irritation may be absent or occur late. The subacute type of sigmoid volvulus seems to me the best diagnosis in this case. The X-Ray reveals an impressive distension of the entire colon, with a suggestion of a dilated sigmoid loop.

The sigmoidoscopy showed no evidence of mechanical obstruction to 14 cm., which would be only slightly above the peritoneal reflection, so that this would not rule out a sigmoid volvulus. The presence of gas in the

rectum and the passage of a small amount of stool by rectal tube is not inconsistent with a subacute type of volvulus. The extreme distension, certainly further compromised his respiratory reserve, and peritonitis probably contributed to the final picture.

#### CLINICAL DIAGNOSIS

1. Subacute sigmoid volvulus.
2. Arteriosclerotic heart disease, with chronic congestive failure.
3. Bronchopneumonia, resolving.
4. Respiratory acidosis.
5. Arterionephrosclerosis.
6. Benign prostatic hypertrophy.

#### ANATOMICAL DIAGNOSIS

1. Reducible sigmoid volvulus, with distended sigmoid loop.
2. Adrenal vein thrombosis.
3. Arteriosclerotic and hypertensive heart disease, with cardiac hypertrophy (480 gm.).
4. Bilateral pulmonary congestion and edema, moderate.
5. Chronic passive congestion of the liver.

#### PATHOLOGIC DISCUSSION: DR. FRANKLIN F. FERGUSON

On opening the abdominal cavity, a large sigmoid volvulus with a distended loop which measured 20 cm. in length on each arm of the loop, was first demonstrated. There was irregular slight distension of the large bowel above, and fibrous proliferation in the mesentery of the site of the twist of the volvulus, which was easily reduced. The thromboses in the adrenal veins were best appreciated in the microscopic, and showed partial organization, with edema and congestion in adjacent portions of the medulla, and even some fibrosis and definite diminution in lipid material in the cortices. Thrombi were present in both adrenals, to approximately the same degree. Their age was estimated as approximately 10 days. It is believed that the combination of intermittent volvulus, adrenal vein thrombosis, and gastric suction, explained the complicated electrolyte disturbance.

Sigmoid volvulus as a cause of intestinal obstruction is relatively uncommon in our experience, and a brief review of American literature shows that it varies from 2 to 3% to 6% of all intestinal obstructions in this country, and accounts for approximately one-third of all large bowel obstructions. It is interesting to note in an article by J. L. Farringer and H. Wilson, of Memphis, in the *American Journal of Surgery*, October, 1955, that volvulus is apparently of much greater incidence in German, Russian and Baltic states. In one report from Berlin it is said to account for one-third of all cases of intestinal obstruction, and in a Russian report, for 111 of 215 cases of intestinal obstruction.



# The Dependent Decrepit And The Happy Oldster

PHILIP P. THOMPSON, JR., M.D.\*

There is very keen competition for the tax dollar in our present day society. The health care of the aged and the education of our children have recently been competing in public interest for a greater portion of it. It is necessary to realize at the start, that it is impossible to finance everything that is wanted or desirable. Therefore, it is the duty of someone to decide which things are most essential and most desirable. There are perhaps others better qualified to give advice on Education's foremost needs, but no one can advise better than physicians regarding the order of projects for the aged. Education of our youth should take priority over the aged's needs, so it is even more important not to waste money or direct it to the lesser concerns of the aged.

Simply stated there are and will be more and more people living longer and longer, with fewer and fewer families willing or able to provide love, shelter, and financial support. Politicians have caught the Radio and T.V. "give away" fever. They think that by giving more money and cut rate hospital care they have the answer to the problem. Emphasis has been placed on means of segregating the aged and stripping them of their ability to earn. The Social Security device had as one of its original intents to limit the labor market to those under 65 yrs. Now, again labor is pushing this "heartless" legislation which will in fact allow each family to pass on to the government its responsibility of "home care" of the aging parent. There has been little attention to the study of the desires of the aged, less to the happiness of the aged, and least of all to the type of health care the aged want or require.

Each of us listens daily to the desires of the aged and realize their greatest need. It is not hospital care. After being assured of the diagnosis and prognosis, the aged, as well as you or I, would prefer; if possible, to live or to die in comfort at home with our family at hand.

The health of our older citizens is perhaps primarily a medical problem, but the physicians must stress to the community that happiness of the aged is necessary for and paramount to the health of the aged. Money, effort, and planning for their happiness will yield more return in both gratitude and longevity as well as relief from the family burden of the aging person. Providing a happy, hopeful, industrious, contented life for our senior citizen will do more than any hospital or medical care program ever devised. Methods of providing con-

tinued employment and recreational facilities for our senior citizens should have priority in any government program for aged.

The cost of medical care of this age group is admittedly high. Methods and studies must be done to determine how this age group can be cared for at the lowest personal cost but with the maximum happiness and comfort for the patient. The avoidance of unnecessary waste of money, time and effort for medical and hospital care is a medical and educational problem of first import.

The time must come when each physician after proper consultation must make a calculated guess or estimate of an individual's health and state: "Hope" or "Hopeless" or "Every effort to save life" or "No more effort to save life but comfort and peace to the utmost." For the Hopeless, further wastage of hospital effort and space as well as the patient's, his spouses, and the community funds becomes an injustice to all concerned. Simple comforts at home or in good low cost nursing home facilities should be provided for the "Hopeless." In short, the physician must answer the question "What is the hope for health and happiness?" and decide the "high cost road" to rehabilitation or the "low cost road" to death. This is being done by all physicians, but not enough of it and not squarely faced soon enough by most of us.

Assuming that the happiness of the aged is adequately provided we might then consider what ideally a good health care program for the aged would be. These are listed in the approximate order of their importance.

## PHYSICIAN SERVICES

1. Regular physical examinations in a doctor's office. Patients return at the interval stated by the physician or upon the appearance of a new or recurrence of old symptom.

2. Provision of Medical Service at home or in nursing home with a limit and some financial responsibility by patient or family.

## NURSING HOMES

- A. Decent, clean, attractive nursing homes with medically capable personnel who are able to provide tender loving care. Such a place can be described as a place where any physician would be willing to be sick and cared for till death.

- B. Nursing homes or hospitals for the hopelessly senile or hopelessly ill where they can die comfortably, clean and with dignity.

- C. Temporary housing facilities where the

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spouse of a hospitalized patient may stay and where the patient himself may convalesce and live for limited periods until health is restored sufficient to return home. This could be in conjunction with a large recreational, rehabilitation or hobby facility for the aged.

#### HOSPITAL CARE

A hospital with "Progressive Medical Care" facilities for acute definitive medical or surgical care only. Quick transfers out to one of nursing homes suggested above.

#### INSURANCE COVERAGE

1. A basic deductible type of insurance policy which will cover all the above medical, surgical, hospital, and nursing home needs. This must be financed by each of the following in order: in proportion to the ability of each to pay, a. Patient himself. b. family. c. local community. d. state government. e. federal government.

2. Reinsurance by family, municipal or state government for catastrophic illness or for welfare. and indigent aged patients.

#### EDUCATIONAL PROGRAM

A concerted effort on the part of the individual physician, County Society, and State Society to initiate, implement, and sell such a program for the happiness and health of our Senior Citizens to every community.

#### LEGISLATIVE PROGRAM

As plans and progress are made your elected representatives should be informed of them. Their assistance must be sought to initiate legislation to accomplish these desirable goals: adequate, comfortable and clean care for the "Dependent Decrepit" but more important a happy, industrious, productive life for the "Healthy Oldster."

704 Congress Street, Portland 4, Maine

### POST NECROTIC CIRRHOSIS — *Continued from Page 290*

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# The Journal of the Maine Medical Association

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## Across The Desk

**Federal Employee Enrollment**

Blue Cross-Blue Shield led all other organizations in the enrollment of federal workers who became eligible for coverage under the Federal Employee Health Benefits legislation enacted last year, it was reported in Chicago by the national Blue Cross and Blue Shield associations. A spokesman for the Blue Cross and Blue Shield national offices said that more than 55 per cent of the estimated 1,695,000 federal workers who selected health benefits coverage from among the 38 programs available chose to enroll in Blue Cross-Blue Shield.

Nearly complete tabulations of the distribution of enrollment between the various programs which were released by the Civil Service Commission in late July indicated that enrollment in Blue Cross-Blue Shield was more than twice as large as enrollment in the government-wide indemnity benefits program provided through the Aetna Life Insurance Company which enrolled about 450,000 government workers compared to the Blue Cross-Blue Shield enrollment of 935,000. All other programs, including those offered by government employee and group health organizations, accounted for but 19 per cent of the total enrollment, or approximately 325,000 enrollees.

In discussing the preliminary enrollment totals announced by the Civil Service Commission, representatives of the Blue Cross Association and the National Association of Blue Shield Plans said that the selection of Blue-Cross-Blue Shield by nearly a million federal

employees represented "an overwhelming vote of confidence in these community oriented organizations" and made the programs offered by the "Blue Plans" the "coverage of choice" among employees of the Federal Government.

These spokesmen also emphasized that the preference for Blue Cross and Blue Shield reflected in the choice of federal workers followed the pattern of leadership and popularity these Plans have continued to display in the enrollment of large segments of the public at large.

The Blue Cross and Blue Shield spokesmen also called attention to the fact that a breakdown of enrollment totals showed that government employees chose the high level-higher cost benefits program in preference to the low benefit-lower cost option offered by Blue Cross-Blue Shield in a ratio of about four to one. The high level benefit programs offered by other organizations were similarly preferred to the low cost-low level coverage these spokesmen said, indicating that federal workers share with the public at large a desire to have a comprehensive degree of coverage in preference to that of minimal standards and that people are prepared to pay the additional price for broader forms of protection.

The choice exercised by federal employees in selecting health benefits programs was described by Blue Cross and Blue Shield association officials as especially significant because it was the first time the element of

*Continued on Page 318*



WILSON H. McWETHY, M.D.

*President, Maine Medical Association*

1960-1961



## Wilson H. McWethy, M.D.

*President, Maine Medical Association*

1960-1961

Wilson H. McWethy, M.D., became President of the Maine Medical Association on June 20, 1960, during the Association's 107th annual session at Rockland, Maine. Announcement of Dr. McWethy's election to this office was made while he was a patient at the Pratt Diagnostic Clinic in Boston.

Dr. McWethy was given a standing ovation at the meeting of the House of Delegates on Sunday, June 19th — the opening session of the convention — where he was scheduled to preside as President-elect.

He has been an active and interested member of the Association since 1938. In 1956, he was elected Councilor for the Fourth District and in 1958 Council Chairman. He had also served as a member and Chairman of the Legislative Committee, in addition to many other committee appointments.

Dr. McWethy was born in Bataince, New York on June 21, 1907, the son of H. H. and Elizabeth Wilson McWethy. He received his B.S. degree in 1931 from the Pennsylvania Military College and his medical degree from Temple University School of Medicine in 1936. During World War II, he served in the Medical Corps from 1942 to 1947. He has been a member of the Staff of the Augusta General Hospital since 1938.

He is a member of the Board of Education in Augusta, a Kennebec County Medical examiner and is active in civic affairs.

Dr. and Mrs. McWethy and their two children reside at 22 Sewall Street in Augusta, Maine.

# From the Secretary's Notebook

## The 107th Annual Session

The 107th Annual Session of the Maine Medical Association, which was held at The Samoset in June, will be recalled by the 714 in attendance as a really successful meeting; scientifically and socially. Because you are all familiar with those phases of the program, this report will cover some of the highlights of the meetings of the House of Delegates, Council and General Assembly.

### House of Delegates First Meeting

The House of Delegates met on Sunday, June 19th; the First Meeting at 10:00 A.M. and the Second Meeting at 3:00 P.M. Carl E. Richards, M.D., of Sanford, Council Chairman, presided at these meetings in the absence of the President-elect, Wilson H. McWethy, M.D., of Augusta, who was ill. The Parliamentarian was Linus J. Stitham, M.D., of Dover-Foxcroft.

Both meetings were well attended and the stenographic record, which is on file in the offices of the Association, indicates a lively amount of interest in the business at hand.

The first action of the House was a motion that a telegram, expressing the sympathy and well wishes of the members, be sent to Dr. McWethy. This motion was seconded by several members and carried unanimously.

The report of the Executive Director, Dr. Hanley, called attention to the increase in activity of the committees of the Association; the very apparent increase in interest in the annual session; the Building Fund which now totals \$10,000.00; the Scholarship Loan Program made up of income from investments; the Group Insurance Program for members; Placement Service an ever increasing part of the Association's ever increasing activities; the Medical School for Maine which is still being "worked on"; Mal-practice insurance rates and efforts to obtain "some simple facts and figures"; the Medicare Program; a Poison Control Program in Maine, and the Journal, "this months issue (June) is 100 pages; all of the articles are original articles, and the Scientific Section has improved consistently . . . where we have trouble is in getting the members to read it" — the increase in income from advertising which now nearly equals the income from dues paid to the Association.

The Council Chairman, Dr. Richards, reported briefly on the ten meetings of the Council held during the past year; nine regular meetings and one special.

### Budget 1960-1961

The following budget for 1960-1961 as drawn up by the Budget Committee, (Dr. Richards, Dr. Philip P. Thompson, Jr., and Dr. John F. Dougherty), approved by the Council and presented at the Interim Meeting of the House of Delegates was approved.

Estimated income from State Dues, Journal Advertising, Subscriptions and Exhibit Space rentals is \$79,-825.00. (Income from investments — approximately \$1,600.00 will be used for the Association's Medical Education Fund).

Approved expenditures total \$75,770.00:

Association:	
Office	
Salaries:	
Executive Director	\$10,000.00
Secretary-Treasurer	3,000.00
Stenographers (2)	6,750.00
Travel — Exec. Dir. & Sec.-Treas.	2,000.00
Supplies, telephone, rent, payroll taxes, etc.	5,000.00
Equipment	1,000.00
General:	
President's Expenses	1,000.00
Annual Session & Int. Meet. House of Delegates	4,000.00
Council	700.00
Committees:	
Medical Advisory (Legal Counsel)	1,000.00
Legislative Counsel	1,500.00
National Education & Public Relations	300.00
Other Committees Standing & Special	1,500.00
Delegates:	
American Med. Ass'n. (Delegates & Alternates)	1,200.00
New England States & New Brunswick	400.00
New England Council Dues	150.00
Fall Clinical Session	500.00
Annual Roster	300.00
Woman's Auxiliary	400.00
Northeast Region Blood Bank	100.00
Journal:	
Printing & Plates	22,000.00
Travel	250.00
Office:	
Salaries	
Editor	2,500.00
Secretary-Treasurer	3,000.00
Stenographer	3,120.00
Supplies, postage, rent, etc.	1,400.00
Prizes	200.00
Insurance	100.00
Retirement Fund	2,400.00
Total	\$75,770.00

The report of the delegate to the A.M.A., Dr. Philip P. Thompson, Jr., was published in the July issue of



the Journal and committee reports in the July and August issues.

The following resolution presented by Dr. John F. Gibbons, President of the Maine Radiological Society, was approved:

**BE IT RESOLVED:** That the Maine Medical Association agrees with the intent and purpose of the following resolution presented at the American Medical Association meeting of its House of Delegates on 11/25/59:

**"RESOLVED:** That the American Medical Association urge to all county and state medical societies the establishment and promotion of programs of inspection and testing of all fluoroscopes and radiographic equipment."

Furthermore, that the Maine Medical Association urges its members to cooperate in such a program of inspection to be conducted in Maine by the Department of Health and Welfare with the cooperation of the Maine Radiological Society.

A motion that the President appoint a Poison Control Committee, as recommended by Dr. Ohler in his report which appears on page 256 of the July Journal was approved. It was also voted that the Veterans Administration at Togus assume the functions of the Poison Control Center.

### Second Meeting

At the Second Meeting of the House the report of the Nominating Committee, which appears in this issue of the Journal, was accepted.

### Revisions In The M.M.A. By-Laws

It was voted that the Committee on Medical Education and Hospitals (Chapter VII, Section V of the By-Laws; whose duties were —

1. to keep itself constantly informed concerning the relations between physicians and hospitals;
  2. to be advised on the problems of medical education, with particular attention to opportunities for students in Maine so desiring to obtain a medical education;
  3. to be advised of and provide opportunities for postgraduate training for doctors in Maine);
- be changed to the Committee on Recruitment, Aid and Placement. It was further voted that Section 1 of the above become a part of the duties of the Board of Ethics and Discipline, Section 2 a part of the Committee on Recruitment, Aid and Placement and Section 3 a part of the Scientific Committee.

### Committee On Recruitment, Aid And Placement

The Committee on Recruitment, Aid and Placement shall consist of five (5) members, and it shall be the duty of this committee:

1. to organize the efforts of the doctors in the State to recruit dedicated and capable students of Maine for a Medical Career;

2. to administer, allocate, and increase the loan funds of the Maine Medical Education Foundation.
3. to assist in the placement of well-qualified physicians in internships, residencies, and practice in the State;
4. to be advised on the problems of medical education, with particular attention to opportunities for students in Maine so desiring to obtain a medical education.

In connection with the discussion concerning this committee, it was voted that the active members of the Association be assessed \$25.00 to help medical students who need loans; this amount to be paid by January 1, 1961. In subsequent years this assessment to be re-voted. It was also voted that the administrative details of this fund be left to the committee.

### Board Of Ethics And Discipline

In accordance with the above, the Board of Ethics and Discipline (Chapter VII, Section 8), was revised by adding the following preceding the final paragraph which begins "The Board shall have power . . .":

The Board shall keep itself constantly informed concerning the relations between physicians and hospitals and assist in the arbitration of any disputes which might arise between the two.

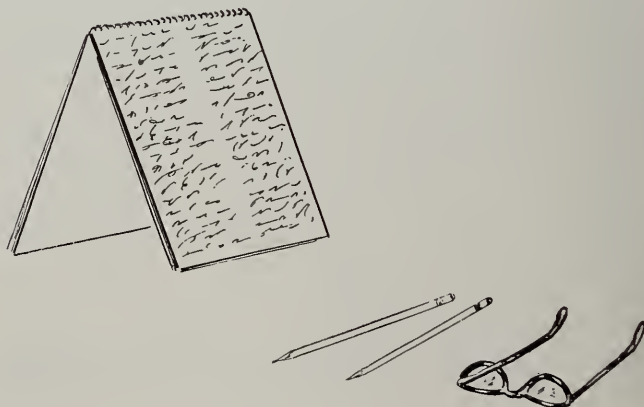
### Scientific Committee

The Committee on Scientific Work (Chapter VII, Section 2), was changed to include as paragraph two, the following:

In addition to providing a scientific program for the Association's meetings, the Committee shall be advised of and provide opportunities for postgraduate training for doctors in Maine.

A proposed revision in the By-Laws regarding the organization of the Council, which was published in the April issue of the Journal, was not approved.

*(To be continued in the September issue)*



# Maine Medical Association

## STANDING COMMITTEES — 1960-1961

Standing Committees for 1960-1961, and Delegate and Alternate to A.M.A. from January 1, 1961 to January 1, 1963, as proposed by the Nominating Committee and approved at the Second Meeting of the House of Delegates of the Maine Medical Association at Rockland, Maine, June 19, 1960.

### Nominating Committee

- 1st District*, ROBINSON L. BIDWELL, M.D., Portland
- 2nd District*, PAUL J. FORTIER, M.D., Lewiston
- 3rd District*, RALPH C. POWELL, M.D., Damariscotta
- 4th District*, ALLAN J. STINCHFIELD, M.D., Augusta, Chairman
- 5th District*, KARL V. LARSON, M.D., East Machias
- 6th District*, THOMAS G. HARVEY, M.D., Caribou

### Scientific Committee

- John A. Woodcock, M.D., 35 Second St., Bangor (1 yr.) — Chairman
- Sidney R. Branson, M.D., 37 Main St., South Windham (2 yrs.)
- James E. Poulin, M.D., 177 Main St., Waterville (3 yrs.)

### Legislative Committee

- Brinton T. Darlington, M.D., Westwood Rd., Augusta (1 yr.) — Chairman
- M. Tieche Shelton, M.D., 21 Western Ave., Augusta (1 yr.)
- Philip Dachslager, M.D., 21 Western Ave., Augusta (2 yrs.)
- Charles A. Hannigan, M.D., 85 Goff St., Auburn (3 yrs.)
- John F. Andrews, M.D., 20 West St., Boothbay Harbor (3 yrs.)

### Medical Advisory Committee

- Thomas A. Martin, M.D., 157 Pine St., Portland — Chairman
- Gerald H. Donahue, M.D., 4 Station St., Presque Isle
- Philip L. Gray, M.D., Blue Hill
- C. Harold Jameson, M.D., Medical Arts Bldg., Rockland
- George L. Maltby, M.D., 31 Bramhall St., Portland
- Clement S. Dwyer, M.D., 205 French St., Bangor
- Allan J. Stinchfield, M.D., 16 East Chestnut St., Augusta

### Board of Ethics and Discipline

- William F. Mahaney, M.D., 338 Main St., Saco (3 yrs.) — Chairman
- Samuel R. Webber, M.D., Calais (3 yrs.)
- Forrest B. Ames, M.D., 255 Hammond St., Bangor (1 yr.)
- Armand Albert, M.D., 193 Main St., Van Buren (1 yr.)
- Isaac M. Webber, M.D., 29 Deering St., Portland (2 yrs.)
- William V. Cox, M.D., 133 Court St., Auburn (2 yrs.)

### Rural Health Committee

- Paul R. Briggs, M.D., Hartland (2 yrs.) — Chairman
- S. Dunton Drummond, M.D., Bar Mills (2 yrs.)
- Robert H. Pawle, M.D., Steep Falls (3 yrs.)
- Harland G. Turner, M.D., R.F.D. No. 2, Norridgewock (3 yrs.)
- Frederick W. Skillin, M.D., 69 So. High St., Bridgton (1 yr.)
- Wallace E. Viles, M.D., Turner (1 yr.)

### Public Relations Committee

- Joseph E. Memmelaar, M.D., 54 Forest Ave., Bangor (2 yrs.) — Chairman
- Howard L. Reed, M.D., 68 Water St., Skowhegan (2 yrs.)
- Warren C. Baldwin, M.D., 42 Deering St., Portland (3 yrs.)
- William E. Dionne, M.D., 75 Main St., Springvale (1 yr.)
- Eustache N. Giguere, M.D., 90 Webster St., Lewiston (1 yr.)

### Committee on Credentials

- John F. Dougherty, M.D., 112 Front St., Bath (1 yr.) — Chairman
- Paul A. Fichtner, M.D., 6 Pleasant St., Rangeley (1 yr.)
- George E. Sullivan, M.D., R.F.D. No. 1, Fairfield (2 yrs.)
- Robinson L. Bidwell, M.D., 31 Bramhall St., Portland (3 yrs.)
- James C. Bates, M.D., Eastport (3 yrs.)

### Health Insurance Committee

- Francis A. Winchenbach, M.D., 910 Washington St., Bath (1 yr.) — Chairman (Lincoln-Sagadahoc)
- Daniel R. Shields, M.D., 369 Main St., Lewiston (3 yrs.) — (Androscoggin)
- Harry M. Helfrich, Jr., M.D., 555 Main St., Presque Isle (3 yrs.) — (Aroostook)
- Louis A. Asali, M.D., 29 Deering St., Portland (1 yr.) — (Cumberland)
- Paul A. Fichtner, M.D., 6 Pleasant St., Rangeley (2 yrs.) — (Franklin)
- Robert F. Russell, M.D., Penobscot (3 yrs.) — (Hancock)
- Kenneth W. Sewall, M.D., 2 School St., Waterville (3 yrs.) — (Kennebec)
- Edward K. Morse, M.D., 22 White St., Rockland (3 yrs.) — (Knox)
- Linwood M. Rowe, M.D., 11 Franklin St., Rumford (2 yrs.) — (Oxford)
- Leonard G. Miragliuolo, M.D., 10 Maple St., Bangor (2 yrs.) — (Penobscot)
- Linus J. Stitham, M.D., 50 Main St., Dover-Foxcroft (1 yr.) — (Piscataquis)
- Harland G. Turner, M.D., R.F.D. No. 2, Norridgewock (2 yrs.) — (Somerset)
- George L. Temple, M.D., Fahey St., Belfast (1 yr.) — (Waldo)
- Karl V. Larson, M.D., East Machias (2 yrs.) — (Washington)
- Alexander W. Magocsi, M.D., York (1 yr.) — (York)



### Members of the Advisory Committee to the Health Insurance Committee

Maine Society of Anesthesiology — Clement S. Dwyer, M.D., 205 French St., Bangor  
 Maine Chapter, American Academy of General Practice — John D. Denison, M.D., 105 Brunswick Ave., Gardiner  
 Maine Society of Obstetrics and Gynecology — E. Allan McLean, M.D., 29 Deering St., Portland  
 Maine Chapter, American Academy of Pediatrics — Everett A. Orbeton, M.D., 131 State St., Portland  
 Maine Society of Internal Medicine (Includes Medical Specialty Group) — Albert Aranson, M.D., 39 Deering St., Portland  
 Maine Radiological Society — John F. Gibbons, M.D., 22 Bramhall St., Portland  
 Maine Chapter, American College of Surgeons — John F. Reynolds, M.D., 216 Main St., Waterville  
 Maine Trauma Committee — John A. Woodcock, M.D., 35 Second St., Bangor

Ear, Nose and Throat Group — John E. Whitworth, M.D., 116 Hammond St., Bangor

### Recruitment, Aid and Placement (formerly Committee on Medical Education and Hospitals)

Paul H. Pfeiffer, M.D., 14 Gilman St., Waterville (3 yrs.) — Chairman  
 Ralph Zanca, M.D., 86 Pine St., Lewiston (3 yrs.)  
 Richard C. Wadsworth, M.D., 489 State St., Bangor (1 yr.)  
 Charles W. Capron, M.D., 22 Bramhall St., Portland (1 yr.)  
 H. Carl Amrein, M.D., 29 Weston Ave., Madison (2 yrs.)

### Delegate and Alternate to AMA January 1, 1961 to January 1, 1963

Delegate — Asa C. Adams, M.D., 68 Main St., Orono  
 Alternate — George J. Robertson, M.D., 33 College Ave., Waterville

## COMMITTEE REPORTS — 1959-1960

(Continued from July issue)

### Rural Health Committee

HOWARD H. MILLIKEN, M.D., *Chairman*

Health and physical education must be an integrated part of the school curriculum. In this era of emphasis on science and academic excellence, health and physical education still have a vital place in the school program.

In general this was the consensus of some 250 participants at the seventh National Conference of Physicians and Schools held at Highland Park, Illinois.

Sponsored by the American Medical Association, under the auspices of its Department of Health Education, the conference was attended by representatives of state medical societies, state health and education departments, and national organizations interested in child health.

Major topics of discussion were the pros and cons of national norms for fitness; the values of periodic health examinations of school children; how to find time for teaching health and physical education; standards of study for health education, and classification of pupils for physical education.

The major conclusions and recommendations of the conference were as follows:

*National norms for fitness:* The conference groups could not agree on whether there should be national norms. One group believed that there is great danger in the establishment of norms because of the psychological impact on children.

Among the dangers cited were: many are unable to reach the norms, and will thus be classified as inferior; the true measure of a child's progress is against himself rather than against norms; norms, rather than health benefits, may become the objective of a program; tests may consume time which can be used to better advantage for beneficial activities; over-emphasis on norms might tend to overstandardization of programs.

The other major opinion was that "it is now idle to debate if we should or should not have norms, because, in fact, we do have them, since millions of children have been or are

being tested, with physical performance tests," a conference summary stated.

Norms already exist and comparing a child to a standard or norm "should not jeopardize the possibility of the teacher recognizing individual differences, but should actually enhance the situation." A score only becomes meaningful when compared to a norm, it was said; this is what makes the four-minute mile an accomplishment in track. The principal problem now is to study the constructive use of norms.

Participants also suggested that the term "tests of physical performance" replaces the term "norms," and that stress be placed on the concept that norms need not necessarily be met by all individuals.

*Time for teaching health and physical education:* If health and physical education are to be given the time they deserve in the curriculum, the following conditions need to be met:

— It must be recognized that the two are independent areas of instruction, although they may be allied in function and organized within one administrative unit.

— Health teachers must be properly prepared at all school levels.

— A practical sequential outline of study in health education and physical education based on the developmental needs of children and the health problems and concerns of the community must be developed.

— Emphasis must be placed on the development of desirable attitudes and practices as well as upon information and skills.

It was also recommended that attention be given to close integration of the program of health instruction with health service functions and healthful living in the school. The testing of vision and hearing, weighing and measuring, health examinations, and such matters as lighting, ventilating and sanitizing are too often dealt with in isolation.

*Continued on Page 314*



DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

Department of Health and Welfare

Aseptic Meningitis

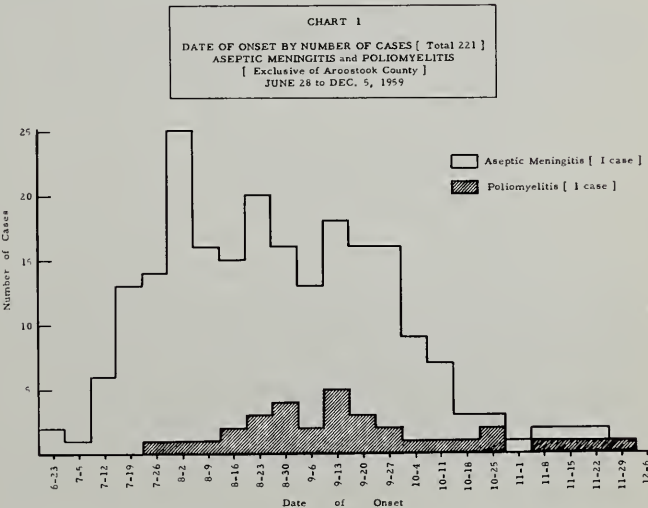
ALTA ASHLEY, M.D., M.P.H.\*

During the fourth week of July in 1959, paired sera were sent to the State Diagnostic Laboratory for "viral studies" on a case of possible aseptic meningitis, an eleven year old boy from Warren (Knox County). A second pair arrived on a case in Litchfield (Kennebec County) and shortly after that a third case was reported from Topsham (Sagadahoc County) which was of particular interest because the patient had received a fourth Salk vaccine inoculation in May 1959 and had had ECHO 9 aseptic meningitis in August of 1958. A fourth case from nearby Wiscasset (Lincoln County) was hospitalized the same night and the local practitioner stated that he had seen many similar cases during the previous week. The striking symptoms common to all were: photophobia or retrobulbar pain, sensitive skin and myalgia, with fever and some nuchal rigidity but no muscular weakness.

During the first half of August cases began to be reported from hospitals over the lower central portion of the State, particularly in the Kennebec Valley area. Physicians were queried as to the number of hospitalized and non-hospitalized cases they were attending. Pediatricians tended to speak of seeing the greatest number. One stated that he had seen six to eight cases a day over a period of several weeks.

Most cases were seen at home or even treated over the telephone. The disease often swept through an entire family in a matter of days; in some families serial cases appeared at about weekly intervals. When it became apparent that a disease with distinctive symptom complex was prevalent, the Public Health Service was contacted to learn whether or not similar outbreaks had occurred elsewhere. In response to this call, an epidemiologic team arrived on August 21 to help in the study of this outbreak, the first reported up to this time.

On August 21, a twenty-seven year old woman who had had two Salk vaccine inoculations in 1956 was admitted to a hospital in Central Maine with illness of thirteen days duration and involvement of all four extremities, particularly the left thigh. Her physician, a



close associate, shortly before had had similar symptoms — chills, sweats, headache, eyepain, difficulty in voiding and defecation, tender skin and general muscular weakness. This case and an unvaccinated child reported from a Portland hospital with weakness of the right leg, were the only cases with frank muscular weakness known up to that time.

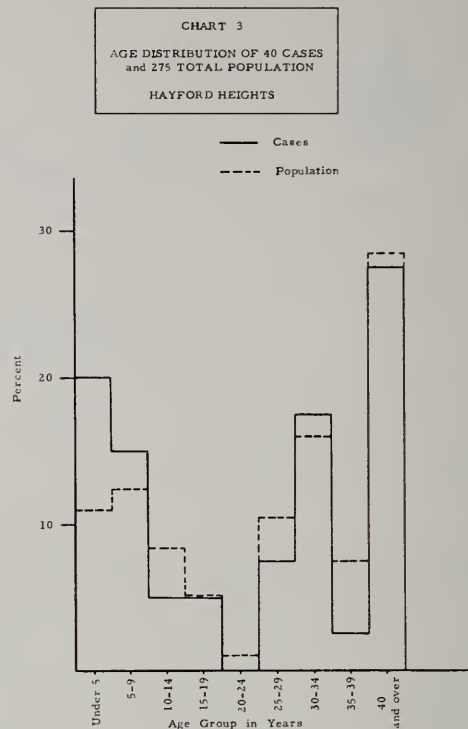
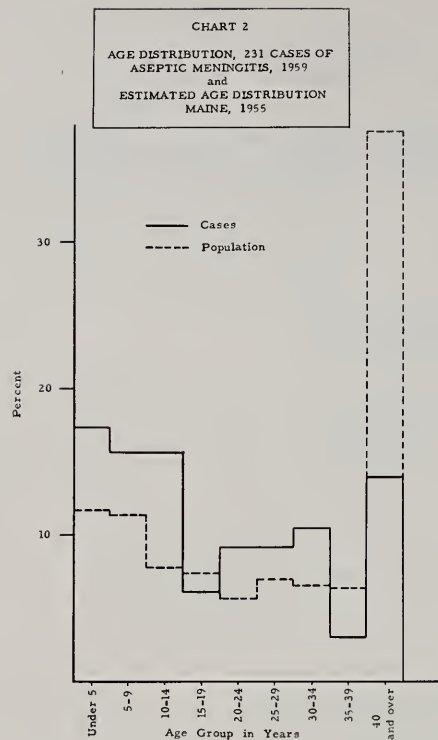
As the summer progressed, more cases of paralysis occurred scattered throughout the State, exclusive of Aroostook County, but they were only a small portion of the total cases; most were mild with moderate, if any, paralysis and few deaths occurred. Cases seemed to be most prevalent along the Kennebec River Valley from north at the Forks to Bath at its mouth.

At the time the second paralysis case was reported in District III, a fatal case was reported from Cutler in Washington County. This man worked at the Naval installation during the week and spent week-ends in New Brunswick near Presque Isle. The first case with onset in Aroostook County occurred September 5.

Between July 2 and December 5, a total of 373 cases of aseptic meningitis and paralytic poliomyelitis were made known either through reporting by health officers or through epidemiologic investigation. Of these, 107 occurred in Aroostook County, the rest down-state. This

\*District III Health Officer.





paper deals only with the down-state cases and chiefly with cases occurring in Health District III. The outbreak in Aroostook County has already been reported in the *Journal of the Maine Medical Association*.<sup>1,2</sup>

Detailed information was obtained from 65 cases in 62 families, of which 60 in 58 families had onset in Health District III. There were two families on which no information was obtained concerning family size or secondary cases. In the remaining 60 families, there were 297 individuals of whom 139 were ill. Discussion will center around the outbreak revealed by the study of these families and by a community survey in which were found 40 cases in 19 families out of a total of 275 persons in 82 families. This survey was conducted in order to determine how widespread the outbreak was and to see what, if any, relationship polio immunization had to the type and severity of the disease.

Hayford Heights was selected for the community survey because it was easily accessible, the people were expected to be cooperative, cases of aseptic meningitis were known to have occurred in the area and there had been contact with a family in which three cases had occurred. This community is an upper middle-class housing development of 82 families on the road between Augusta and Gardiner. A survey of the area was made by telephone and personal contact early in October in order to obtain some idea of the incidence and character of the disease in the general population. Information was obtained as to age, sex, Salk vaccine inoculations, symptoms, if any, and dates of onset.

Health District III is a central coastal area of five counties lying between Lewiston and Bangor in a triangle bounded on the west by the lower Kennebec val-

ley, on the east by the west shore of the Penobscot River, and on the south by the coast line between these rivers. The northern boundary is roughly parallel to a line running from 10 miles north of Waterville on the Kennebec River to 10 miles south of Bangor on the Penobscot River. Several off-shore islands are included in this area. The total population of this area is approximately 178,000 with a high percentage of older persons. There are no large cities. Waterville and Augusta are the largest, with populations of 18,000 and 22,000 respectively. Four others, Gardiner, Bath, Rockland, and Belfast are over 5,000 while most towns are 2,500 or less. The chief industries are paper, shoe and cotton manufacturing; poultry and egg farming and processing; dairying and fishing. Government and commerce are important in the Augusta area. Waterville is both an industrial and a college community (Colby). Both Augusta and Waterville have large French-Canadian populations. In both Richmond and Pittston there are settlements of "White" Russians. In Knox County, Finns are the predominant "foreign" group. The bulk of the population in the district is English-Irish-Scotch stock ("Yankee").

There are many organized private summer camps, especially in Kennebec County. Tourist traffic is heavy, particularly in Lincoln and Knox Counties. Waldo County is the most rural with only one community, Belfast, being greater than 2,500. There are fewer summer visitors who remain for a significant period of time in this area, in comparison with the remainder of the district.

Roads from southern New England to Quebec, the Maritimes and eastern Maine tourist areas all lead

TABLE A  
MAINE  
1955 AGE GROUP POPULATION

Age Group	Population	Percent
0 - 4	106,600	11.5
5 - 9	100,400	10.9
10 - 14	70,700	7.6
15 - 19	67,600	7.3
20 - 24	51,700	5.5
25 - 29	63,500	6.9
30 - 34	59,300	6.4
35 - 39	58,900	6.3
40 and Over	348,300	37.6
Total	927,000	100.0

through this district. Thus, during the summer, there is a great deal of traffic passing through this area from other states and from Canada, particularly from other New England states, the Mid-Atlantic and Mid-Western states, Quebec and the Maritimes. Visitors from Massachusetts and New York are the most numerous at the time of year referred to in this paper and ease of introducing infections prevalent in those parts is apparent.

Chart 1 gives the week of onset of 221 down-state cases, 188 aseptic meningitis and 33 polio, in which the date of onset was recorded. The first case which developed significant paralysis occurred during the week of July 26. Thereafter, paralytic cases occurred throughout the next four months but five was the maximum number occurring in any one week. Aseptic meningitis, on the other hand, built up to a maximum of 25 the week of August 2 and continued to occur more or less steadily through August and September, but with a gradual decrease through October. Four cases each of aseptic meningitis and polio occurred during November; the last paralytic case had onset the last week of November. The pattern was quite different in Aroostook County where disease did not begin to occur until September 5, was mainly paralytic with nine fatalities and where incidence was fairly constant until November 14.<sup>3</sup> The last case had onset December 5, just five days later than the last down-state case.

In Charts 2 and 3 and Table 1 will be found the age distribution in 231 down-state cases including 65 cases from District III and 64 additional cases among their family contacts, 62 miscellaneous down-state cases and 40 cases in Hayford Heights and a comparison with the total State population and that of the community. Although there is a preponderance of cases in children in both groups, there is a surprising number of cases over 40 years of age, particularly in Hayford Heights. This indicates that the agent or agents responsible for these cases were operating in a non-immune population.

The age and Salk vaccine status of the 65 cases on

Table 1  
Age - Sex Distribution

Age Group	A.M.			Polio			Totals			Percent
	M	F	T	M	F	T	M	F	T	
0 - 4	23	13	36	2	2	4	25	15	40	17.3
5 - 9	20	13	33	2	1	3	22	14	36	15.6
10 - 14	24	9	33	2	1	3	26	10	36	15.6
15 - 19	8	5	13	1	0	1	9	5	14	6.1
20 - 24	5	12	17	3	1	4	8	13	21	9.1
25 - 29	9	10	19	0	2	2	9	12	21	9.1
30 - 34	9	15	24				9	15	24	10.4
35 - 39	4	3	7				4	3	7	3.0
40 and Over	19	12	31	1	1	2	19	13	32	13.8
Total	121	92	213	10	8	18	131	100	231	100.0

Age Group	Hayford Heights			Till Population			Well Population			Total Population		
	M	F	T	Percent	T	Percent	T	Percent	T	Percent	T	Percent
0 - 4	5	3	8	20.0	22	9.4	30	11.0				
5 - 9	3	3	6	15.0	2	11.9	34	12.3				
10 - 14	2		2	5.0	21	8.9	23	8.3				
15 - 19	2		2	5.0	12	5.1	14	5.1				
20 - 24					3	1.3	3	1.1				
25 - 29		3	3	7.5	25	10.6	28	10.3				
30 - 34	4	3	7	17.5	37	15.7	44	16.0				
35 - 39	1	2	3	7.5	20	8.5	21	7.6				
40 and Over	3	6	9	22.5	67	28.6	78	28.3				
Total	20	20	40	100.0	235	100.0	275	100.0				

Table 2  
Vaccine Status By Age

Age Group	65 Cases					Paralytic Polio				
	Aseptic Meningitis					Paralytic Polio				
0 - 4	1	0	1	2		2	0	0	1*	
5 - 9	0	0	1	1	2	2	0	0	1*	
10 - 14	2	0	0	9	1	1	0	0	0	
15 - 19	1	0	0	2*	0	1	0	0	0	
20 - 24	2	0	2	0	1	2	0	1	1	
25 - 29	4	0	1	1	0	0	0	2	0	
30 - 34	1	0	0	8	0					
35 - 39	1									
40 and Over	6	0	0	1	0	0				
Total	18	0	5	24*	4	8	0	3	3**	
Percent	35.3	0	9.8	47.1	7.8	57.0	0	21.5	21.5	
				45.1	54.9			78.5		

Inadequate immunization 47.2%

Inadequate immunization 92.9%

\* One case with no inoculations since 1957

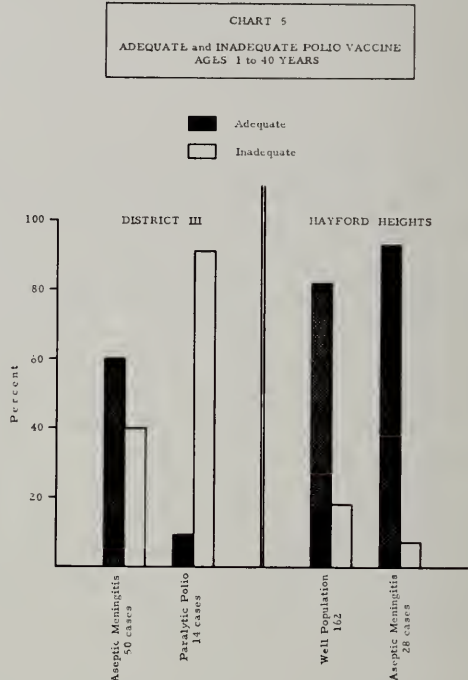
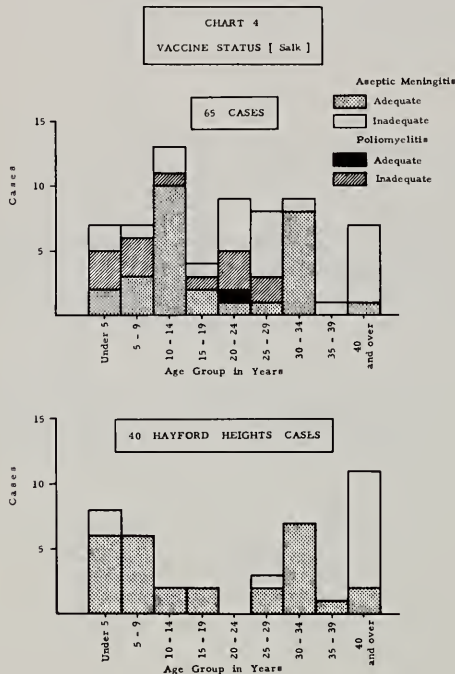
\*\* Two cases with no inoculations since 1957

which epidemiologic investigation was made and the 40 cases from Hayford Heights will be found in Tables 2 and 3 and Charts 4 and 5. Adequate immunization in the case of the 65 cases was considered to be three or more inoculations of which one had been received in 1958. Three or more inoculations were considered



Table 3  
Hayford Heights Survey

Age Group	235 Well Persons						40 Ill Persons						Total Population					
	0	1	2	3	4	Total	0	1	2	3	4	Total	0	1	2	3	4	Total
0 - 4	2	2	4	12	2	22	1		1	5	1	8	3	2	5	17	3	30
5 - 9				28		28				4	2	6				32	2	34
10 - 14			1	19	1	21				2		2			1	21	1	23
15 - 19	1			11		12				2		2	1			13		14
20 - 24	1		2			3							1		2			3
25 - 29	5		3	17		25		1	1	1	1	3	5		4	18	1	28
30 - 34	9		3	25		37				6	1	7	9		3	31	1	44
35 - 39	3			16	1	20				1		1	3			17	1	21
40 and Over	47		4	16		67	7	1	1	2		11	54	1	5	18		78
Total	68	2	17	144	4	235	8	1	3	23	5	40	76	3	20	167	9	275
Percent	28.9	0.9	7.2	61.3	1.7		20.0	2.5	7.5	57.5	12.5		27.6	1.1	7.3	60.7	3.3	
	37.0		63.0		30.0		70.0		36.0		64.0							
1 - 40	20		10	128	4	162	1		1	21	5	28	21		11	149	9	190
Percent	12.3		6.2	79.0	2.5		3.6		3.6	75.0	17.8		11.0		5.8	78.5	4.7	
	18.5		81.5		7.2		92.8		16.8		83.2							



adequate for the Hayford Heights cases, since no data were available as to time of last inoculation in these cases.

Only one case of paralytic disease was classified as having adequate immunization. This was a 21 year old woman who had bulbar polio and who now has minimal weakness of the left shoulder and slight difficulty with speech and deglutition. Complement fixation tests revealed infection with Polio I virus. There was no apparent relationship between immunization and aseptic meningitis. In fact, in the Hayford Heights cases, all of which were classified as aseptic meningitis, the immunization record of those between the ages of 1-40 was better than in the well population. This age range

was chosen to eliminate infants who had not had time to complete their immunization and older people who had not been advised to be inoculated.

Among the cases of aseptic meningitis are included cases of pleurodynia and pericarditis and one case of Guillan-Barre syndrome, since these cases were too few to warrant separate consideration.

Age-sex distributions as shown in Table I indicate a preponderance of males over females in both aseptic meningitis and poliomyelitis except that in Hayford Heights, the numbers were equally divided between the sexes.

Secondary attack rates are shown in Tables 4 and 5 both for aseptic meningitis and poliomyelitis. A strik-

Table 4  
Secondary Attack Rates

Aseptic Meningitis					
Family Size	Number of Families	Number of Individuals	Number of Susceptibles	Secondary Cases	Secondary Attack Rates
1	(1)	(1)			
2	3	6	3	2	66.7
3	8	24	16	4	25.0
4	9	36	27	6	22.2
5	13	65	52	15	28.0
6	8	48	40	17	42.5
7	2	14	12	6	50.0
8	1	8	7	7	100.0
9	0	0	0	0	0.0
10	1	10	9	9	100.0
Total	45	211	166	66	39.9
				Wgt. Mean	35.7

Polio					
Family Size	Number of Families	Number of Individuals	Number of Susceptibles	Secondary Cases	Secondary Attack Rates
4	2	8	6	0	0.0
5	5	25	20	2	10.0
6	3	18	15	0	0.0
7	1	7	6	6	100.0
9	1	9	8	0	0.0
10	1	10	9	1	11.1
Total	13	77	64	9	14.1
				Wgt. Mean	12.4

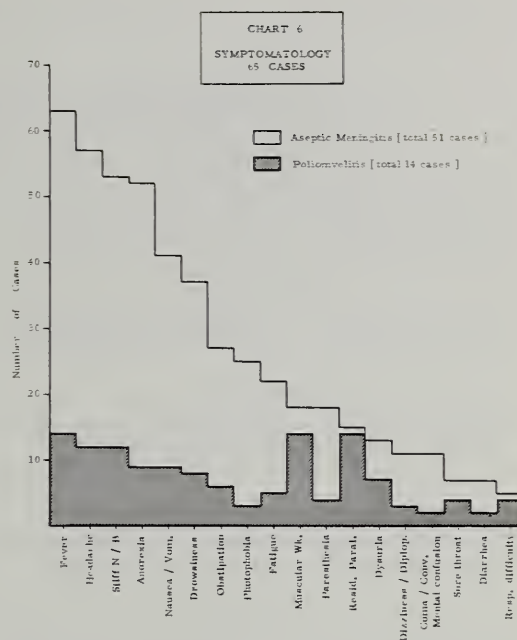
Hayford Heights					
Family Size	Number of Families	Number of Individuals	Number of Susceptibles	Secondary Cases	Secondary Attack Rates
2	4	8	4	1	25.0
3	4	12	8	4	50.0
4	6	24	18	5	27.8
5	5	25	20	11	55.0
Total	19	69	50	21	42.0
				Wgt. Mean	39.0

Table 5  
Aseptic Meningitis and Polio Rates  
Per County  
District III

County	Population in 100,000	Aseptic Meningitis Cases	Aseptic Meningitis Rate	Polio Cases	Polio Rate
Kennebec	87.1	25	28.4	7	8.0
Knox	26.8	10	37.3	1	3.8
Lincoln	19.3	6	31.1	2	10.3
Sagadahoc	22.7	4	17.6	2	8.8
Waldo	22.0	2	9.1	1	4.5
Total	177.9	47	26.4	13	7.3

ing difference in attack rates was found in the families of these two groups. There were no secondary cases of paralytic disease but 9 persons out of 64 susceptibles had either gastroenteric disease, headache or backache, or a mean attack rate of 12.4 which corresponds closely to the mean rate of 11.4 among Aroostook families. In the 45 families of aseptic meningitis cases, there were 66 out of 166 susceptibles who had significant symptoms, or a mean rate of 35.7, nearly three times the rate in polio families. In Hayford Heights the rate was similar. There were 19 families with 50 susceptibles of which 21 developed symptoms giving a mean rate of 39.0. This indicates again that little immunity existed against the agent or agents causing aseptic meningitis.

Symptoms varied somewhat with the course of the outbreak. Early cases had aphthae of the lips, mouth and tonsils; several cases occurring in September or after had marked encephalitic signs such as convulsions, coma and mental confusion. One case diagnosed as Guillan-Barre syndrome was reported. Only one death occurred among the 65 cases studied by District III personnel. This was a 29 year old woman who had had two polio inoculations in 1957 and died of bulbar



polio on the third day of illness. Chart 6 gives a breakdown of chief symptoms in the 65 cases. Most symptoms were encountered about equally in the two types of cases with the exception that anorexia and photophobia were preponderantly found among the aseptic meningitis cases whereas muscular weakness, dysuria, sore throat and respiratory difficulty were present chiefly among the cases of poliomyelitis.

Table 5 shows the rate per 100,000 for each of the five counties for cases of aseptic meningitis and polio, on the basis of the 60 cases in District III. No attempt was made to calculate rates for individual towns.

Because of the lack of facilities for virus identification within the State, specimens had to be forwarded to the Public Health Service laboratories in Georgia. This entailed delivering material in a frozen state to Augusta, where it was repacked in dry ice and shipped by air freight to Georgia. Thus far, positive reports have been received on 46 down-state cases of which fifteen were Coxsackie B<sub>2</sub>; two were Coxsackie B<sub>3</sub>; three were Coxsackie B<sub>5</sub>; one was ECHO 7 (isolated along with Polio III); one was ECHO 14; eleven were Polio I; and twelve were Polio III. In two cases the virus isolated could not be identified. No isolations of Polio II were made outside of Aroostook County. Five Polio I and three Polio III were isolated from cases with no paralysis. ECHO 9 virus, prevalent in 1958, was also not isolated. The case harboring ECHO 7 also had Polio III isolated from throat washings, and a significant rise in serum antibodies against Polio III. This man had typical pleurodynia and no evidence of paralysis despite total lack of Salk vaccine protection. His wife developed headache, fever, generalized muscular pain and has complained even after ten months of weakness of the back. No diagnosis has been made because no physician has been in attendance.

*Continued on Page 318*



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Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## ANDROSCOGGIN

April 21, 1960

The Androscoggin County Medical Society was held at the Central Maine General Hospital, Lewiston, Maine on April 21, 1960. There were twenty-four members present.

The meeting was opened by the President, Dr. Paul J. B. Fortier. The minutes of the March meeting were read and approved. Dr. Joseph M. Mendes and Dr. Ronald S. Potts were elected to membership. Dr. Otis B. Tibbetts, Chairman, gave the interim report of the Finance Committee. It was voted to hold the May meeting at Poland Spring on Sunday, May 22.

Dr. Fortier gave a report of the interim meeting of the House of Delegates held at the Stowe House, Brunswick, Maine April 3, 1960. The society voted unfavorably upon the establishment of a Medical Education Fund, financed by yearly contributions of \$25.00. It was felt the motion needed clarification.

Dr. Carl E. Richards, Chairman of the Council of the Maine Medical Association and Mr. Richard Nellson of the Associated Hospital Service discussed legislative matters and Blue Cross-Blue Shield problems.

The meeting adjourned at 11:05 p.m.

DONALD L. ANDERSON, M.D.  
Secretary

## CUMBERLAND

May 19, 1960

A meeting of the Cumberland County Medical Society was held at the Mercy Hospital, Portland, Maine on May 19, 1960.

Following dinner, a discussion was held on the subject of Blue Cross and Blue Shield. The society's guests, Mr. Smith and Mr. Mahaney from the business offices of the Maine Medical Center and Mercy Hospitals, answered questions and commented upon the subject of Blue Cross and its effect on hospital financing. Further information and explanations of the proposed Blue Shield contracts was provided by Dr. Carl E. Richards, Chairman of the Council of the Maine Medical Association; Dr. Louis A. Asali, of the Maine Medical Association's Health Insurance Committee; Dr. Charles R. Geer, member of the Board of Directors of Blue Cross-Blue Shield, and several other members of the society.

The business meeting was called to order by the President, Dr. Donald F. Marshall. In the absence of Albert Aranson, M.D., Secretary, Edward G. Asherman, M.D. was appointed Secretary pro tem. The minutes of the meeting held April 21, 1960, were read and approved.

Marion W. Westermeyer, M.D. was elected to membership in the society.

The following committee reports were accepted: the Public Relations Committee presented by Philip S. Fogg, Jr., M.D., Committee on Aging by William C. Burrage, M.D., Forand Bill Committee by Irving J. Poliner, M.D. and the Health Insurance Committee by Louis A. Asali, M.D. After considerable discussion of the report of the Health Insurance Committee, it was voted that our delegates to the Maine Medical Association attend the coming meeting uninstructed as to their action on this Blue Shield matter.

It was voted that our delegates be instructed to vote in favor of the motions presented by the Committee on Medical

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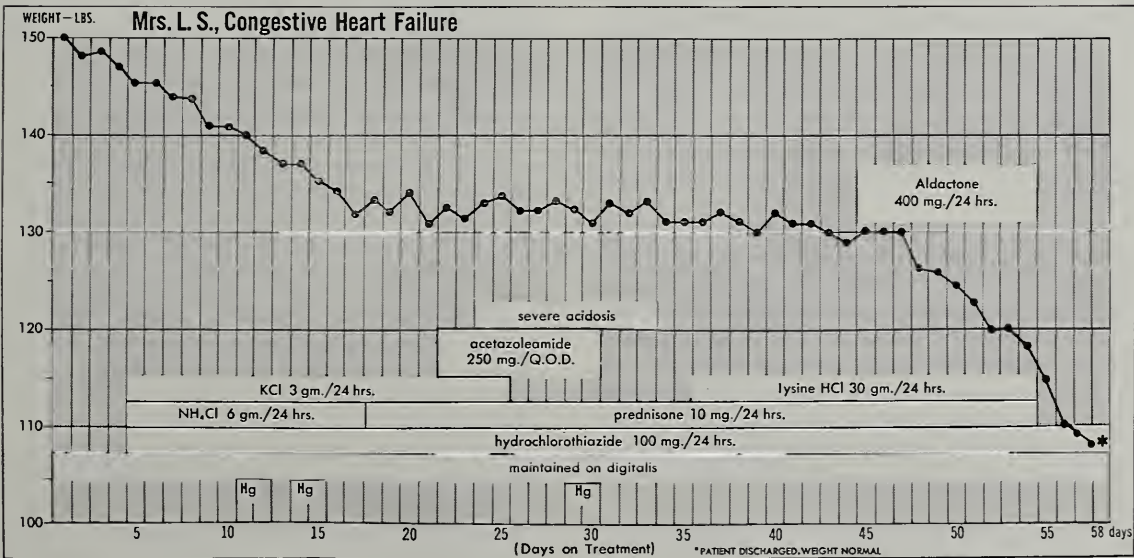
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Education and Hospitals and that they vote for the taxation to be a voluntary contribution. It was voted that our delegates be instructed to approve the proposed budget of the Maine Medical Association as presented at the Interim Meeting of the House of Delegates. It was voted that our delegates be uninstructed as to their actions concerning the proposed amendment to the Constitution and By-Laws relative to the Maine Medical Association Council.

The meeting was adjourned at 10:55 p.m.

EDWARD G. ASHERMAN, M.D.  
*Secretary pro tem*

## WASHINGTON

May 18, 1960

A regular meeting of the Washington County and St. Croix Medical Societies was held in St. Stephen, N. B., on Wednesday, May 18, 1960, at the Charlotte County Hospital, with twenty-one members and guests present.

H. A. Bird, M.D., Director of Provincial Laboratories, St. John, N. B., was introduced by Raleigh Smith, M.D., of St. George, N. B. Dr. Bird spoke on the indirect and direct Vandenburg tests for differentiating the various types of jaundice. He also discussed several other laboratory tests. He mentioned the use of a new cyanide test for hemoglobin that was so accurate that it was felt unnecessary to do a R.B.C. count.

John A. Woodcock, M.D., orthopedic surgeon from Bangor, Maine, was introduced by Harold G. Sears, M.D., of Woodland, Maine. He spoke on several orthopedic problems such as hip fractures and the various means of fixation. He also discussed other types of fractures, such as the collar and the different types of treatment.

The members and their wives attended a dinner at Demont's restaurant. Following the dinner, business meetings of the St. Croix Medical Society and Washington County Societies were held. Dr. Frederick Whitehead, Secretary of the New Brunswick Medical Society, discussed many things pertinent to both societies.

KARL V. LARSON, M.D.  
*Secretary*

## COMMITTEE REPORTS—1959-1960 — *Continued from Page 306*

*Periodic health examinations for school children:* It was generally agreed that periodic health examinations of school-age children are worthwhile. The frequency of physical examinations, their nature and effectiveness are determined by the level of public acceptance of need, the availability of physician and dentist time, and the administrative relationship between the home, the school, and the practicing physician and dentist. No single plan will work everywhere.

The groups concluded that:

— A physical examination includes the complete history; a thorough physical examination; counseling about problems of healthful living and necessary immunizations.

— Emphasis should be on adequacy of the examination, not on frequency. At least four physical examinations during the school life of the child are needed, with additional examinations being made on referral by the school nurse or teacher.

— The best place for physical examination of children is the office of the family's physician. Examination there carries more connotation of independent personal action than examinations made in school, and should have a better educational carry-over.

— It is inadvisable to have physical examinations of all pupils each year as recommended by some state laws, since this is an unwise expenditure of money and professional time.

It was suggested that school health services direct their activities toward care and follow-up of conditions brought to light initially by teacher observation, absentee follow-up, and other screening tests not requiring the time of the physician.

This recommendation was based on the findings of a four-year study in the Rochester schools, which showed that only a very small percentage of children benefited from annual examinations.

*Standards of study for health education:* The groups agreed that there is a "middle of the road" between rigid national standards for each grade level and no standards at all in health education.

The word "standard" should be replaced by such words as "guide posts," "goals," "guide lines," or "expected out-

comes." Rigid national "standards" for each grade level are undesirable and impractical; however, there is a need for some type of "standards" which are sufficiently broad to develop sound attitudes and practices.

Guide lines should be arrived at by local community action involving all professional groups associated with the health area.

In addition, it was recommended that there should be standards in health education for teacher education, and that the American Medical Association explore, with other professional groups, ways in which the scientific accuracy of health texts can be improved.

*Classification of pupils for physical education:* These discussions dealt mainly with the problem of medical excuses from physical education. It was pointed out that children's excuses from physical education must be signed by doctors rather than parents, and that physicians must be interested and oriented about physical education in the schools.

The group developed five concepts which are:

— All physicians should know what is included in local physical education activities, from the full program to varying degrees of individual remedial services that may be available. At the same time, physical educators must understand the thinking and motivation behind action taken by a physician in connection with excuses from participation.

— Physicians by providing positive information about reasons why an excuse has been issued can help with the best educational adjustment of the child. They should also provide specific information about activities in which the pupil can safely engage.

— Inadequate physical education programs should be strengthened wherever possible. Student resistance to such activities stems in some instances from lack of interest and feeling that the activity is of no benefit.

— There is a need in many localities for establishment of a greater number of activity categories.

— Every pupil should have an exposure to physical education in order to understand and appreciate its significance in all phases of living.

# Fourth Biennial Governor's Conference On Aging

Augusta, Maine — September 14, 1960

The Fourth Biennial Governor's Conference on Aging will be held on Wednesday, September 14, 1960, in the House of Representatives, Augusta, Maine.

The present Maine Committee on Aging felt that in order to fulfill its many obligations, a comprehensive study must be undertaken. They wanted to determine, for example, who and where the aged were in Maine; what kind of problems these people were having; the facilities in existence to meet the needs of our senior citizens; and what recommendations could be made to meet the existing problems. This study has been conducted by the Northeastern Research Foundation and company of Brunswick, Maine.

Dr. Clarence J. Hylander, Project Director, and staff, will present "The Maine Program on Aging" at the Conference. This will be highlights from the study sponsored by the Committee on Aging.

Morris Zelditch, Director of Social Planning, Council of Jewish Federation and Welfare Funds, Inc., New York City, will be the keynote speaker. His topic will be "Trends in Care of the Aging." Mr. Zelditch, in his present capacity, is concerned with the study and planning for Jewish social services in American and Canadian Jewish communities. He was formerly Director of War Services for the Family Welfare Association of America where he was in charge of the analysis of social and economic trends and their effects upon social services and social agency practices. Previous to that he was Administrator of Public Assistance in Washington. He has been a lecturer in community organization at Columbia, New School for Social Research and other universities.

The complete program is as follows:

## 9:00 A.M. Registration

## 10:00 A.M. General Assembly

Presiding: Robert C. Russ, Chairman, Governor's Committee on Aging

Invocation: Reverend Harvey Bates, Orono, Maine

Greeting: The Honorable John H. Reed, Governor of Maine

Address: "The Maine State Program on Aging," Clarence J. Hylander, Project Director, Northeastern Research Foundation, Inc.

Address: Morris Zelditch, Director of Social Planning, Council of Jewish Federation & Welfare Funds, New York City, New York

## 12:00 Noon. Recess for Lunch

Workshops or Panels

## 1:15 P.M. Reconvene

"Economic Security of the Aging"

Chairman — Mr. John H. Barclay, Livermore Falls, Maine

Dr. Robert F. Barlow, Colby College, Department of Economics

"Employment Security and Retirement"

Chairman — Joseph E. A. Cote, Commissioner, Maine Employment Security Commission

Merton J. Gribbin, ES Director, Maine Employment Security Commission

"Health and Medical Care"

Chairman — Dr. George Robertson, Thayer Hospital, Waterville, Maine

Dr. Harold Willard, Thayer Hospital, Waterville, Maine

"Social Services"

Chairman — Miss Pauline Smith, Director, Public Assistance, Maine Department of Health and Welfare

Mrs. Muriel Frye, Waterville, Maine

"Family Life"

Chairman — Dr. John G. Chantiny, University of Maine, Orono, Maine

"Adult Educational Needs"

Chairman — Dr. John C. Cass, Director Guidance and Adult Education, Maine Department of Education



## Announcements

### Twelfth Annual Pediatric Institute

The annual Pediatric Institute for physicians, sponsored jointly by the Maine Medical Association and the Division of Maternal and Child Health, State Department of Health and Welfare will be held at the Maine Medical Center, Portland on Wednesday, September 7.

The subject of this year's program will be: "Cancer in Early Life from Birth Through Adolescence." It will be conducted by Dr. Sidney Farber, Director of Research, Children's Cancer Research Foundation, Children's Medical Center, Boston. Dr. Farber will be accompanied by his associates from the Center, comprising an epidemiologist, a surgeon, radiologist, etc.

The Institute is scheduled to start at 10:30 A.M. and will continue to 4:00 P.M. A detailed program will be sent out to all physicians in the near future.

of the Public Health Service, Department of Health, Education, and Welfare.

The Conference will focus on three general topics: etiology, pathogenesis and spread, and therapy of malignant disease. In addition, panels of scientists will discuss the state of knowledge of the leukemias and lymphomas, and cancer of the breast, lung, gastrointestinal tract, genitourinary system, head and neck, and skin. Other panels will be devoted to cancer control and the role of environmental factors in the occurrence of cancer.

Interested scientists and physicians are invited to attend. Copies of the Conference program and registration cards may be obtained from the National Cancer Conference Coordinator, American Cancer Society, 521 West 57th Street, New York 19, New York.

### Fourth National Cancer Conference

The Fourth National Cancer Conference will be held at the University of Minnesota, Minneapolis, September 13 through 15, 1960. The theme of the Conference is "Changing Concepts Concerning Cancer," and more than 2,000 scientists and physicians from the United States and abroad are expected to attend. The Conference is sponsored jointly by the American Cancer Society and the National Cancer Institute

### Conference On Personnel Needs In Medicine And Related Health Professions

A two-day conference concerning personnel needs in medicine and related health professions will be held at New Hampshire's Mt. Washington Hotel, Bretton Woods, October 5 and 6, 1960. The combined annual meeting of the New Hampshire and Vermont Medical Societies will be held imme-

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diately following the aforementioned Tri-State Health Careers Conference. The Conference is a pilot project of the Health Careers Commission of the National Health Council. It is being conducted in an attempt to show how all of the individuals and organizations concerned over the shortage of health personnel can work together at the community level to induce a greater number of young people to make health their careers.

The State of Maine representatives on the planning committee include: George T. Nilson, Field Director, Bingham Associates Fund; Dean P. Morrison, Director, State Division of the Blind, Maine Department of Health and Welfare; Frederick P. O'Connell, Executive Director, Maine Heart Association; Edmund P. Wells, Executive Director, Maine Tuberculosis Association; and Mrs. Walter Penta, Portland, Past-President of the Woman's Auxiliary to the Maine Medical Association.

### Annual Program Conference Of Blue Shield Plans

Arthur S. Flemming, Secretary of Health, Education, and Welfare, will be the keynote speaker at the Annual Program Conference of Blue Shield Plans to be held October 10 and 11, 1960 at the Drake Hotel in Chicago.

A record attendance of more than 300 Blue Shield Plans' physician-trustees and executives, as well as state and local medical society officers and secretaries, are expected to hear Secretary Fleming talk on the subject, "Voluntary Health Plans Today and Tomorrow."

The two-day conference has as its theme: "The Essentials of Leadership," and will consider such important subjects as "Blue Shield and American Medicine — A Partnership for Progress," "Identifying the Needs and Objectives Essential to Progress in Blue Shield," "Developing Executive Talent to Meet Future Management Needs" and "Government As a Purchaser of Health Care Benefits."

The National Association stated that the October Conference will replace the highly successful Blue Shield Professional Relations Conferences normally held each February.

### 1961 Eastern States Health Education Conference

The 1961 Eastern States Health Education Conference of the New York Academy of Medicine will be held on Thursday and Friday, April 27 and 28, 1961 at the New York Academy of Medicine, 2 East 103 Street, New York City.

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ACROSS THE DESK — *Continued from Page 300*

free choice involving such a variety of programs has been exercised by so many individuals at one time. "Neither group enrollment in industry nor individual enrollment campaigns on a community basis," these leaders said, "can be compared with the federal employee enrollment just concluded, and that is why the

'vote of confidence' registered in the selection of Blue Cross-Blue Shield by nearly a million government workers stands as remarkable evidence of the confidence that people have in the Blue Cross and Blue Shield organizations and in the voluntary hospitals and physicians who sponsor these programs."

DEPARTMENT OF HEALTH AND WELFARE — *Continued from Page 311*

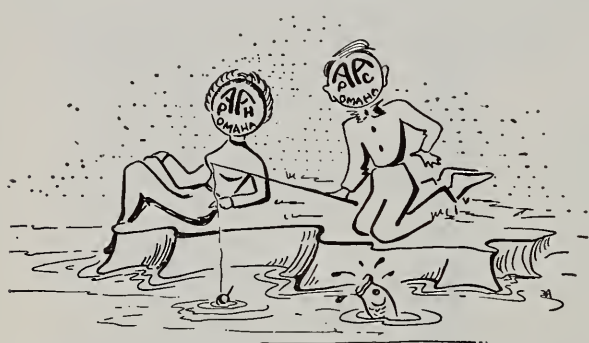
A few contacts between index cases are known. One case of poliomyelitis in Waldo County was a neighbor of an Aroostook County case before moving to Northport shortly before onset. Two families in Hayford Heights were contacts of a family in Benton where three persons had aseptic meningitis. A family who visited in Waterville developed severe cases of aseptic meningitis soon after returning to Massachusetts early in October. Coxsackie B<sub>2</sub> virus was isolated from their stools.

This outbreak in the State of Maine has been a most interesting one to study because of its widespread nature and the marked differences in its characteristics

between down-state and Aroostook County. No means of spread other than by personal contact was determined. Apparently, the influx of large numbers of summer visitors was the reason for the widespread nature of the outbreak. Cases fell off sharply in October when tourists had returned to their homes.

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3. Personal Communication from Marguerite C. Dunham, M.D., District VI Health Officer (Aroostook County).



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# The Journal of the Maine Medical Association

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Number 9

## Sinus Disease In Children

JAMES E. POULIN, M.D.\*

Most people regard sinus disease as an adult infection and strangely enough its occurrence in children is one which the laity seldom realizes and the medical profession overlooks. Businessmen discuss their sinus problems with their associates while their wives are complaining of their own sinus difficulties across the bridge table. It never occurs to most of these people that their young children may have the same trouble.

The incidence of sinusitis in children cannot be accurately stated in exact percentages because of many variations in environmental influences. Such factors as the manner of living, the climate, the housing, feeding, injudicious clothing and the care which the parents may give or neglect to give all contribute to the etiology of the disease. It is easily understood that the more unfavorable the above factors are the greater will be the incident of sinusitis. It is also very evident that the underlying predisposing factor in all cases is the common cold which is forever prevalent among all classes of society.

The frequency of the disease is greater during the inclement weather months especially in colder sections of our country. During the winter months, the resistance of the child is naturally lower because of the lack of sunshine and the constant exposure to chilling. It is a recognized physiological fact that chilling of the feet rapidly lowers body temperature and in so doing causes the nasal mucosa to swell with subsequent stasis within the sinuses. This situation rapidly enhances the growth of organisms within the sinus cavities. Winter is not the only season which is favorable to sinus infection for summer months now manifest additional

evidence of the disease in children. This is the result of the great modern use of swimming pools where large numbers of children are exposed to a variety of bacteria which may be foreign to their own nasal mucosa. Diving and underwater swimming in this environment is instrumental in causing an increase in the number of sinus infections.

After the child's sinuses have obtained a reasonable degree of development, sinusitis may occur in any age group. The maxillary sinus is present at birth but it is hardly larger than a pea and during the first three years of life the sinuses are rarely of clinical significance because of their undeveloped state. From this age on, however, the sinuses have assumed proportions specifically large enough to become the seat of pathological processes and to retain infectious matter within their cavities. The ethmoid and maxillary sinuses are involved in almost equal proportions and one frequently infects the other. It would seem that sinusitis occurs more frequently in boys than in girls and this may well be the result of their disregard of caution in play and improper protective clothing.

The pathological process within the nose and paranasal sinuses is more profound in a child than an adult because of the vulnerability of the tissues. The epithelium is more fragile and the vessel walls are more delicately constructed. The cilia may quickly become inactive because of the surface contact of epithelium with opposing epithelium within a small cavity. It is easy to understand why the invasion by bacteria may be very rapid and the reaction more intense than in the adult sinus. An unfavorable climatic environment is but one of the predisposing causes of this type of infection in children. A child with poor nasal an-

\*Sisters Hospital, Waterville, Maine



atomy suffers from more frequent headcolds and develops sinus infection more readily than the child with normal nasal anatomy. A deviated septum is an anatomical problem which interferes with natural drainage. This cannot be corrected in young children and it thus constitutes a sinus hazard. The hypertrophied adenoid will not only act as a barrier to the passage of air through the nose, but it will also become a constant source of reinfection for the adjacent sinuses. The diseased tonsils will in turn contaminate the neighboring adenoid tissue if it is not already infected. There are other constitutional factors which play a part in lowering the resistance of the child. Malnutrition, whether it be the result of family economics or poor feeding, will be, as evident in nasal tissue as elsewhere in the body. Many authorities state that certain vitamin deficiencies predispose to changes within the epithelium of the sinuses so as to cause this tissue to yield more readily to infection. But today when the world is "vitamin conscious" this problem should play a very minor role. It is widely recognized that allergy is a very vital factor in the production of sinus infection in children as well as in adults. Thus a child who is allergic is at a disadvantage as far as the incidence of sinus infection is concerned. This child's major problem will be magnified by the coexistence of an infection and allergic swelling traumatizing its nasal mucosa.

The symptoms of sinus disease in children are much like those in adults. Nasal congestion with edema of the middle and lower turbinates is frequently an early sign of incipient sinusitis. This may occur without other local clinical symptoms. Discharge is almost always present and if it is suppurative it indicates an actively purulent stage of sinuses. This discharge if abundant enough may manifest a postnasal drip with its associated annoying complaints which are so very well known. Headache is another symptom which some children complain of especially older children. This pain phenomena can arise from a blocked sinus or a toxic irritation. In the acute state of sinusitis an elevated temperature may occur, but this is usually absent in the chronic stages. Many children with sinus infection manifest mouth breathing, repeated colds and a chronic cough. Other children present symptoms which are entirely different. These may appear as hoarseness, otitis media, poor appetite, inability to gain weight and eye manifestations such as conjunctivitis and blepharitis. The most serious evidence of sinus disease is a complication which occurs as orbital cellulitis. This is always a dangerous affair and prompt recognition and strenuous treatment is imperative. Neglected or overlooked cases of ethmoid infection can rapidly develop into orbital complications.

The diagnosis of sinus infection in children depends upon a history obtained from the parents as well as an evaluation of the physical findings. A history of possible allergies should always be obtained in de-

tail as allergies prepare the nose for secondary infection and resulting sinusitis. The possibilities of a foreign body within the nose must always be kept in mind especially so, if there is a unilateral discharge. In making an examination of the sinuses in children the first step is to gain the confidence of the child. Time spent in this endeavor will reward the examiner many times. Frequently an examination can best be carried out in the absence of the parent. A simple diagnostic procedure such as transillumination gains the child's confidence and often proves to be of distinct value. Most children do not object to the spraying of the nose in order to shrink down the mucosa. Radiography is frequently of great value in revealing pathology. It must be realized, however, that X-ray studies alone are insufficient for the diagnosis of sinus disease in children. A thickened membrane may be due to allergy and not to a sinus infection. The appearance, quantity, and distribution of purulent discharge in the anterior nasal vestibules aid the experienced examiner in establishing the diagnosis.

The treatment of a child will have to be modified by the age and temperament of the patient. The ideal rule is to apply the principles of adult treatment in so far as the child will cooperate. This may be divided into office treatment and home treatment. The former may simply consist of shrinking down the nasal mucosa and then applying gentle suction. Irrigations and packing are not justified and do nothing more than irritate the young patient. The home treatment is far more important and its success will depend upon the mother.

If the nasal mucosa has an allergic appearance and there is an associated allergic history, then steps should be taken to eliminate offending allergens. Dean and his co-workers many years ago called our attention to the importance of diet in the treatment of sinus disease in children. Diet alone will not cure a sinus infection. The source of the infection must first be removed and then a proper dietary regime may be instituted. If food allergy is suspected the best results can be accomplished by means of elimination diet. Milk, eggs, and wheat are the most common offending factors and these should be evaluated through a trial and error method which requires great tact and patience on the part of the mother.

The use of old fashion Argyrol® in 20% solution in each side of the nose two or three times a day often proves more helpful than modern antibiotic solutions. I have tried many of the latter with disappointing results. An acute sinus infection on the other hand may respond very favorably to the judicious use of antibiotics which may be given orally or parenterally. The increasing value of chemotherapy must be recognized and full advantage must be made of this most helpful aid. The purulent discharge should be cultured for bacterial sensitivity and the specific and most effective antibiotic can thus be selected. The mode of administration and the dosage is guided by the type of infection

and the age of the patient. We must not lose sight of the fact that antibiotics inhibit the growth of bacteria in tissues only and not in cavities such as nasal sinuses. If purulent material is revealed within a maxillary sinus as demonstrated by X-ray studies and other diagnostic aids; then appropriate drainage of the sinus is a most important adjunct to antibiotic therapy. All sinus disease is not cured by a dry, hot climate. A change of climate will often benefit some children, but no one climate is suitable for all types of cases. If it is felt that the young individual's tonsils and adenoids are diseased and are serving as a foci of infection, it is wise to remove them and in so doing many cases of chronic sinus disease may be cured. Sometimes metabolic studies are helpful when definite etiological factors cannot be uncovered. Subthyroid conditions have been found to contribute to lower resistance and frequently a boggy nasal mucosa. If this condition is noted then adequate thyroid therapy should be prescribed. The opinion of the pediatrician in these cases should always be given serious consideration. The general attitude toward treatment should always be on the conservative side, reserving surgical measures for the cases which do not respond to careful thought-out medical regime. Close cooperation between the rhinologist and the pediatrician should be repeatedly stressed.

Thanks to modern therapy the necessity of surgical intervention in the sinus disease in children is now quite rare. A maxillary sinusitis which has not responded to conservative treatment should be eradicated as it will act as a chronic foci of infection. The great majority of these cases will respond to a simple intranasal antral window and rarely is it necessary to resort to a more radical procedure. Once the window is established, the antrum can be readily irrigated with a suitable antibiotic solution. Even an antrum puncture in a child

becomes a minor surgical procedure because of the necessity of administering a general anesthetic. Extensive sinus surgery in children is unwarranted unless there is a serious complication such as an orbital abscess where there is imminent danger of loss of vision. Lillie states that 98% of the cases of nasal sinus disease in children are cured by conservative treatment. Realizing this possibility the physician who attempts to treat a sinus infection in the child, must consider the intelligent care of the child as a whole and his efforts should include constitutional treatment as well as local therapy.

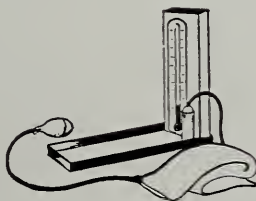
#### SUMMARY

- (1) A persistent nasal discharge in children may well result from the involvement of one or more sinuses.
- (2) Successful conservative treatment must eliminate important etiological factors; allergy, improper diet, hypothyroidism, nasal deformity, poor hygiene, lack of vitamins and diseased tonsils and adenoids.
- (3) The majority of cases will respond to gentle suction, mild nasal medication, and selective antibiotics judiciously used.

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177 Main Street, Waterville, Maine





# Professional Activity Study In Sisters Hospital

GEORGE J. ROBERTSON, M.D.\*

For understanding of this material, some background information on its source is essential. In the Southwestern Michigan Hospital Council, a grant from the W. K. Kellogg Foundation has made possible the pursuit of a simple but challenging thought: Hospital statistics could provide much more useful information if advantage were taken of the possibilities of modern business machines, using the individual patient discharge as the basic unit, rather than lumping together large segments of hospital population in comparisons. This idea evolved after two years' experimentation in 15 small-to medium-sized general hospitals in this Council, and in 1953 the following system was adopted.

For each patient discharged, the medical record librarian in the participating hospital completes a code sheet containing certain information: diagnoses, age, sex, race, length of stay, the attending physician, the condition of the patient on discharge, whether an autopsy was performed in case of death, operations, the operating surgeon, the anesthetist, the type of anesthesia, the pathologist's decision as to the presence or absence of disease in the tissue submitted, the type and number of x-ray and laboratory examinations, the number of blood transfusions, date on transfusion reactions, type of radiation therapy if employed, the admission hemoglobin value in grams, the numbers of consultations and complications, and who paid the bill. This data can all be copied by the record librarian directly from the clinical record without interpretation. At the Study headquarters, the information on the code sheets is transferred to IBM cards for machine analysis. The con-

solidation of this service at one point brings the advantages of modern machine data handling methods within reach of even the smallest and most modest institution. A useful feature of the system is the efficient and inexpensive production for each hospital of its routine monthly statistics and medical record room indexes.

At Sisters Hospital, Waterville, Maine, 80 beds, 27 physicians, PAS has been used since January 1958. The administration and the record room are happy with it. The staff has shown varying interest, the reason being that this takes a little bite of that small tract of spare time each M.D. has to guard so zealously less it escapes him entirely. This is understandable. There is a place, however, where PAS can be brought directly to the staff physician's attention. This is through its use by tissue, record and death committees. Here statistics easily gathered from PAS charts may be strikingly helpful.

The reaction of the staff at Sisters Hospital to this project so far is illustrated by the following: One doctor has asked the record room girl for help in deciphering his semiannual reports. Two doctors have shown a real interest and have done some work with it. Another physician felt that PAS was an arm of the FBI, a sort of sinister way to obtain information about his hospital work.

One of the benefits of PAS is easy accessibility of statistics, allowing comparison and knowledge of performance. Chart I, for example, illustrates some information being gathered by one member of the staff on his own work.

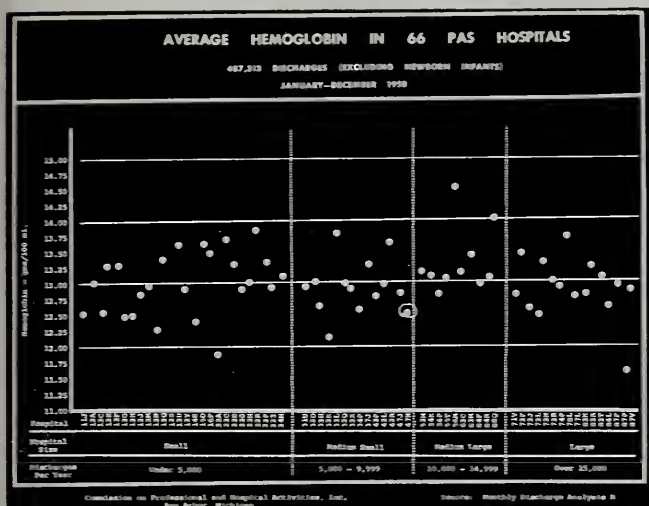
The first eleven cases were in 1958 and disclosed

CHART I  
1958-1959 ACUTE MYOCARDIAL INFARCTIONS

Case	Age	Cons.	X-ray	ECG	Days	Sex	Obese	Diab.	BP	Result	Comp.
4074	71	No	Yes	Yes	85	M	No	No	120	Alive	Cer. Emb.
1104	59	1	Yes	Yes	27	M	No	No	120	Alive	None
1499	57	1	Yes	Yes	20	M	No	No	120	Alive	None
1469	65	No	No	Yes	21	F	No	No	120	Alive	None
4263	84	1	Yes	Yes	13	M	No	No	100	Dead	Heart Block
2845	80	1	Yes	Yes	10	F	No	Yes	180	Alive	None
3113	72	2	Yes	Yes	20	M	No	No	120	Alive	None
3623	74	No	No	No	1	F	No	No	200	Dead	None
2580	79	No	Yes	Yes	13	M	No	No	120	Alive	None
4019	51	No	No	Yes	1	M	No	No	120	Dead	None
3419	66	No	No	Yes	2	F	No	No	140	Alive	R.A.
1020	66	No	Yes	Yes	15	M	Yes	Yes	110	Alive	None
487	85	2	Yes	Yes	21	M	?	No	50	Autopsy	Gout
1018	84	No	Yes	Yes	5	M	?	No	60	Autopsy	None
1792	53	1	Yes	Yes	1	F	No	No	49	Autopsy	None
760	73	No	Yes	Yes	23	F	No	No	100	Alive	Myxedema
1227	61	No	Yes	Yes	16	M	No	No	60	Alive	None

\*Sisters Hospital, Waterville, Maine

CHART II



three deaths and no autopsies (0%). Two of the deaths had no consultation. This looks like poor effort, but the following six cases seen in the first six months of 1959 revealed three deaths and three autopsies (100%) with three consultations. There are many other interesting findings to the physician in this chart and presentation at staff meeting should stimulate other staff members into self evaluation of their own work. If the death rate in this series continues, it will average about 33%, much too high. It may or may not mean less than average ability in caring for coronary heart disease. A review of the death records by the death committee or medical service might reveal poor handling of shock or congestive failure or lack of skill in handling anticoagulants. Correcting the defect would have obvious benefits to physician and patients. The information on this chart took about an hour and one half to obtain. Trying to get the same data out of regular records would consume many hours of time.

The observer has been in practice eleven years, and this is his first knowledge of his own mortality rate on in-hospital treated myocardial infarctions. Similar evaluations can be applied by surgeons to the appendectomies, cholecystectomies, etc. Each physician on the staff obtains a set of semiannual charts from PAS which code his own work and from which he can get such information as is illustrated in Chart I.

A second benefit of PAS is to the hospital as a whole. About every three months a special study is done by PAS with comparison of data obtained from member hospitals. There are now 133 hospitals in this country using PAS statistics. Chart II illustrates a comparison study. The hospitals in the study are divided into small, medium-small, medium-large, and large, according to their annual number of discharges. This chart illustrates admission hemoglobins in 66 PAS hospitals. In

CHART III



the second block, the encircled dot is Sisters Hospital admission hemoglobins. This was 12.5 grams. Chart III shows the wide variability of the admission hemoglobins at Sisters Hospital during the period of study. These findings were reported to the hospital pathologist by PAS, and investigation was requested. A check by the pathologist revealed a defective connection in the photoelectric colorimeter giving a varying source of light. Improved admission hemoglobins resulted. The staff physician interested in tracing the cause of mild anemia could spend a lot of his patient's money and his own time to no avail. PAS suggested that the cure for the anemia registered in the lowest hospital in the right hand corner of Chart II would be transfer of that patient to hospital 56M, the highest hemoglobin admission figure. The benefit to the hospital, patient and physician from this comparative study is evident.

Utilization of Professional Activity Study results in improvement in patient care in individual hospitals, improved medical records, comparison with other hospitals of similar size, and comparison and knowledge of the individual physician's statistical performance.

33 College Avenue, Waterville, Maine



# The Prognostic Significance Of The "Picking Sequence"

J. M. JACKLER, M.D.\*

The purpose of this paper is to describe "picking" movements of the hand which, under certain conditions, is a forecast of death within forty eight hours.

The series of cases, from which I became aware of this phenomenon, has not been evaluated in a detailed fashion so as to compile a statistical report. It is my impression that approximately twenty five patients have been observed to have this "picking," and there were certain definite patterns which appeared to have significance.

1. All persons were over fifty years of age, and with one exception, all were men.
2. (a) An acute deterioration in cerebral circulation appeared required to initiate the picking sequence. In patients who had pre-existing clinical evidence of cerebral arteriosclerosis, "picking" did not occur as a part of the natural history of the disease, but as a result of a myocardial infarction or a pulmonary infection. A recurrent cerebral thrombosis did not produce picking. Perhaps a localized area of inadequate cerebral circulation is of less consequence than a generalized decrease due to a fall in cardiac output.  
(b) All persons were disoriented, semi-comatose, restless, having shifting levels of awareness. Occasionally the patients attention could be attracted for a few seconds, but at no time could his attention be controlled. All patients responded to painful stimuli (pinching of skin). Hypnotics and sedatives would obliterate the picking sequence only when they influenced the patient to the degree that he did not respond to painful stimuli.
3. In this limited series, the picking sequence did not occur in the following conditions, even though the patient was restless, disoriented and semi-comatose: Hepatic coma, chronic or acute uremia, brain tumor, terminal cancer and acute occlusion of carotid artery.

During the period of observation, there was no opportunity to study patients who developed the above listed cerebral symptoms due to acute blood loss, such as in a bleeding peptic ulcer. Perhaps, a larger series of cases would include entities listed in this section.

4. The time interval between the onset of picking and death was four hours at the minimum, and approximately forty eight hours at maximum. (See case reports).
5. The picking movements being discussed is usually made by the placing of the thumb against the index, middle and ring fingers. The "pinkie" finger is usually flexed at the knuckle joint and remains out of the action. The wrist is extended in a natural line, or, upon occasions, held in a slightly flexed attitude. The "pick" is usually confined at one spot of the skin for each pick but frequently it is followed by a flicking or brushing motion at the wrist directed towards the flank and away from the midline of the abdomen. At no time has the pick with flicking been directed towards the midline. Once the picking sequence has started, it will continue at an irregular rhythm at a rate of approximately twenty picks per minute with each pick at a different spot. The skin is not traumatized in any fashion, and no erythema, abrasion or excoriation ever develops.

The picking sequence is confined to the ipsolateral side of the abdomen, (from the genitalia to the breast nipple) in reference to the hand that is doing the picking. I have not observed a pick on the legs, back, thorax (cephalad to the breast), neck, head or arm itself.

Frequently, there is a tugging or pulling of the penis or scrotum prior to the onset of the picking sequence, with no relationship to the presence or absence of a urinary catheter. Upon many occasions, it has been observed that the tugging of the genitalia can occur, in the same patient, with and without the development of a picking sequence.

## ILLUSTRATIVE CASES

CASE 1. A 70 year old male, diabetic controlled by diet alone, mild hypertension controlled with meprobamate 400 mgm, twice daily, at blood pressure of 160-170/90-100, had been suffering from a basilar artery insufficiency syndrome for three years, as evidenced by recurrent attacks of dysphagia, transient hemiparesis involving both sides of his body and progressive per-

*Continued on Page 340*

\*Cardiologist, Sisters Hospital, Waterville, Maine

# Neuralgias Of The Head

## Diagnosis And Treatment

THOMAS R. HEDGES, JR., M.D.\*

### INTRODUCTION

This discussion concerns the more specific types of pain of the head, or the so-called cephalgias, commonly seen in medical practice. Headaches of brain tumor, brain abscess, fever, arteritis, meningitis, subdural and subarachnoid hemorrhage constitute only a minor portion of the total number of pains of the head. They must always be differentiated from the more common types of headache, which are often not as easily defined or ascribable to a specific cause. Headache may be equally intense whether its implications are benign or malignant, and there are few instances in human experience where so much pain may mean so little in terms of tissue injury. Failure to separate the ominous from the trivial may cost life or create paralyzing fear. Wolfe determined in an examination of approximately 10,000 unselected men between the ages of 18 and 38 that headache is the most common bodily complaint. About 8% had frequent severe headaches, and 50% of the men who, after induction into the armed services in World War II demonstrated by trial their temperamental unfitness for war, complained of headache. We are therefore dealing with a vast problem. We are going to discuss the specific types of head pain which may or may not have definable organic cause, but should bear in mind that a vast majority of pains and discomfort in the head stem from readily reversible bodily changes caused or accompanied by certain personality traits or psychic conflict. Headache as a subject for investigation has fared badly through being divided among "specialists." The ophthalmologist as well as the otolaryngologist, neurologist, and neurosurgeon are all guilty of many of the oversimplifications and generalizations which confuse this problem.

### GENERAL CONSIDERATIONS OF PAIN

Pain is not a specific sensation. In many discussions and papers it is obvious that the authors have never taken this particular aspect of this problem into consideration and consider pain as a specific sensation which, in the main, can be blocked or inhibited in a very specific manner. Fortunately this is true in certain instances but, in many others, the problem of pain in all of its aspects must be considered in its broad sense,

involving personality and circumstance surrounding the painful sensation. For instance, photophobia is a situation analagous to the experience of hyperalgesia or hyperesthesia of areas of the skin as an accompaniment of deep pain. Such skin areas are innervated by the same or adjacent neural segments which supply the deep tissues from which the noxious or painful impulses are originating. Wolfe has suggested that though there are many other theories for this phenomenon, the central excitatory effects to a pre-existing barrage of noxious impulses in the segmental or suprasegmental neural apparatus, alter the situation so as to make impulses originating at the usual threshold in the skin seem more than usually intense and persistent. A summation effect analagous to the phenomenon of surface hyperalgesia is encountered in the eye. It is a common experience that patients with a cinder in the eye will, when looking into a light, momentarily experience the light as brighter and the cinder more painful. It is as though a mutual re-enforcement of visual sensation and pain occurs.

### VARIETIES OF HEADACHE AND THEIR MACHANISM

Aside from purely function or psychogenic headache, the most frequently encountered cephalgias are vascular headaches of the Migraine type and headache associated with sustained contraction of the skeletal muscles about the face, neck, and scalp. Many daily recurrent "chronic headaches" following head injury are in one or both of these categories. Headache from acute and chronic diseases of the nose, paranasal sinuses, ear, teeth and eyes is relatively infrequent according to Wolf. Less frequent still are the headaches due to intracranial disease which fortunately constitute a small proportion of the total — less than five per cent. A final small group includes the headache of cranial arteritis and the vascular headaches associated with acute and chronic toxic states.

The vascular headache may be of extracranial or intracranial origin. We shall first consider the extracranial type of headache.

*Extracranial Headaches.* All of the tissues covering the cranium, especially the arteries, are more or less sensitive to pain.

Vascular headaches are probably the most common type of cephalgia encountered in everyday practice. Whether typical migraine or their more atypical relative, the cluster headache, differentiation must be made

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from the typical neuralgias such as tic douloureux. The neuralgias of a specific nature seem to have foci from which the pain starts, particularly if it is stimulated by pressure. Considerable importance should be attached to these points. True neuralgic pain occurs (1) at points of emergence of the nerve trunk from bony foramina; (2) where the nerve passes through fascia; (3) where it breaks up into its branches, and (4) where the nerve becomes superficial; (5) Pain is severe and very transient and unaccompanied by other symptoms and with a negative family history. The treatment of these conditions must necessarily follow a description of the characteristics of each of the types of neuralgias which will follow because, without a means of diagnosis and classification of these disorders, their treatment is utterly impossible and unintelligent.

**Vascular Headaches:** These headaches are associated with dilatation and distention of certain cranial arteries, usually one or more branches of the external carotid artery.

**A. Typical Migraine:** It is difficult to ascertain the frequency of this type of headache that is certainly the most common of the vascular headaches, and in one series constituted 8% of 18,000 patients seen in the general practitioner's office. The head pain is most frequently associated with dilatation and distention of the superficial temporal arteries on one or both sides. However, vascular beds other than this, both inside and outside the cranium, may also be involved. The headache is characterized by periodicity, its throbbing character at the onset which becomes a steady ache as it progresses; its unilaterality in the early stages, and perhaps throughout, though it may become generalized, usually preceding but often accompanying the headache anorexia, nausea, vomiting and mood disturbance play a part, and transient visual disturbances are very common, including blurred vision, scotomata and hemianopsia. Other sensory and certain motor disturbances may also precede the headache. A family history of vascular headache is common; the latter is a significant differential point in the history and the disease is passed on usually from mother to daughter or father to son. During a headache a distended tender temporal or other cranial artery may be seen in the area of the head pain, and digital occlusion of the involved artery at a point proximal to the tenderness or compression of the common carotid artery on the side of the headache may reduce the pain intensity or diminish the pulsatile feature of the headache. *Secondary muscle contraction headaches in the occiput or elsewhere occur in half of the cases.* Unilateral lacrimation and suffused conjunctiva, partial nasal obstruction and facial flushing may be noted at the onset of the headache, and the characteristic history is that of a periodic headache occurring for many years with complete freedom of symptoms between attacks in an individual whose general health is otherwise satisfactory. Headache occurs generally in the setting of depleted energy reserve to-

ward the end of or following periods of increased striving. Unilateral ptosis and pupillary dilation (ophthalmoplegic migraine) or hematoma formation on a superficial temporal artery are less frequent findings. They occur at the end of 24 hours or more of severe headache. Headache elimination following the use of oral, rectal, or intramuscular ergotamine tartrate is an almost conclusive diagnostic test that the head pain is of vascular origin. Some patients present all of the above features; others present only a few. The biggest failure in diagnosis is the fact that the doctor does not realize the variability of this type of headache, and the fact that these patients may never have headache at all, but merely have some of the prodromal symptoms or some of the generalized systemic symptoms that accompany the usual migraine headache.

**Treatment:** This is based primarily on the use of ergotamine tartrate which causes a vasoconstriction of both the intra- and extra-cranial vessels. The dosage is 1 mg. for oral use either sublingually or for ingestion. The use of this drug as Gynergen is the least effective and most unreliable form of ergot therapy, because more of the drug is required, and there are consequently more unpleasant side effects. Ergotamine tartrate, 1 mg., combined with caffeine alkaloid 100 mg. (Cafergot) is an effective oral preparation but with many side effects from both drugs and not as effective for headaches as rectal or parenteral therapy, i.e., cafergot now combined with phenobarbital and belladonna as Cafergot P-B either in pills or suppositories. The preparation eliminates many of the side effects. The dosage is one to six tablets per day. Ergotamine tartrate 1 mg., caffeine 100 mg., and acetophenetidin 130 mg. and belladonna alkaloids 0.1 mg. (Migraine) is an uncoated tablet for oral use which is reported to dissolve quickly. Ergotamine tartrate 0.3 mgs., bellafoline 0.1 mg. and phenobarbital 20 mg. (Bellergol) is a tablet for oral use containing so little ergotamine that it is rarely useful in acute attacks. Occasionally, however, it may be well tolerated as an adjunct to other therapy in patients who cannot use larger amounts, and it has a place in the treatment of attacks in children. Suppositories for rectal administration containing ergotamine tartrate 2 mg. and caffeine 100 mg. (Cafergot suppositories) — this route has made it possible to stop headaches more reliably and an initial dose of half a suppository is recommended. Ergotamine tartrate for parenteral use in ampules containing 0.26 mg. (O.Scc.) and 0.5 mg. (1cc.) (Gynergen) for subcutaneous intramuscular or intravenous use; this is the backbone of treatment of severe migraine and stops headache most quickly and reliably in a high percentage of cases. Side effects are uncommon, and it is the drug of choice in helping to establish the diagnosis.

Ergotamine therapy for migraine cannot be discarded as a failure until it has been given early in the attack, since patients will respond to this when other forms of ergotamine therapy have failed. Subcutaneous and

intramuscular routes of administration are recommended except for emergencies when the intravenous route may be used. Dihydro-ergotamine-methane-sulfonate, containing 1 mg. in 1cc. ampule for subcutaneous or intramuscular or intravenous use (Dihydroergotamine or D.H.E. 45); this form of ergot is used when the above fails because of the fact that many patients tolerate it better than ergotamine tartrate. Milligram for milligram, it is only about one-half to one-fourth as effective as ergotamine tartrate in stopping headache. The route of administration is the same as that for ergotamine tartrate.

All of the above therapy must be individualized to the patient's needs. Obviously when the headache is of little consequence, the patient oftentimes prefers the headache to the treatment, if there are serious side effects. The patient who is most fortunate in regard to treatment is the one with prodromata, which precede the headache for a period of 30 to 60 minutes. It is during this time, at the sign of his first symptoms or the first indication of the headache, whether it be by specific prodromata or generalized feeling of euphoria or depression as the case may be, that treatment should be instituted. The dosage should be gradually increased until maximum parenteral therapy is used as a last resort, until the diagnosis is ruled out or the failure of treatment is pronounced. The above specific therapy may in severe cases be supplemented by removal of the patient from activity — usually to a darkened room and away from the solicitations of friends or relatives. The use of opiates is to be condemned and oftentimes only exacerbates the symptoms of the patient. In many instances where the headache is well established before any treatment can be instituted, the only means of combating it are the above general measures plus the administration of fairly heavy doses of barbiturates to try to induce sleep, following which the patient often awakens with relief of the headache. In severe cases it is sometimes necessary to hospitalize the patient, and in some instances this is the only humane thing to do in that these people when removed from the stresses of ordinary life oftentimes achieve relief from a headache rather dramatically under proper hospital management and intelligent supervision of the problem. Last but not least is the use of psychotherapy which many authors feel to be the cornerstone of the treatment of protracted cases of migraine. As a rule the headache begins in adolescence or in any period of time up to 30 or 35 years of age, characteristically abates during pregnancy and usually subsides with the climacteric. In many instances the headaches are very widely spaced and, in this instance, practical treatment is oftentimes difficult and unnecessary even though each individual attack is worthy of all measures to relieve it. Many patients only have a short series of headaches during periods of stress in their life. One consolation that can always be held out to these people is that the prognosis is inevitably good in the vast majority.

*II Periodic Unilateral Vascular Headaches:* Periodic unilateral pain in the face and particularly in and about the orbit is not uncommon. These attacks of cephalgia do not fit the picture of true neuralgia such as tic douloureux or classic migraine. They are now referred to by most authorities as migraine variants since they have certain clinical characteristics in common with migraine. In the past many syndromes have arisen adding much to the confusion of this subject. They include Horton's histamine cephalgia, Sluder's sphenopalatine neuralgia or "lower half" headache, Harris' ciliary neuralgia, petrosal neuralgia and erythromelalgia of the head. All these clinical syndromes have the following characteristics in common: (1) unilaterality, (2) periodicity with a shorter duration than true migraine (approximately 20-30 minutes); (3) accompanied often by signs of local vasodilation such as distension of the temporal artery, conjunctival and nasal congestion with excess tearing and/or lacrimation. Theories as to etiology include allergy, particularly to foods and alcohol, sensitivity to histamine or acetylcholine-like substances; (4) Psychogenic — all may be intermingled but the basic mechanism of the headache is vasodilation of certain segments of the external carotid artery.

Proper treatment of these headaches first depends on making the correct diagnosis by history. The cornerstone of therapy here as in migraine is ergotamine. However, these headaches are short-lived, occur most commonly at night awakening the patient, and if medication is used with the onset of the pain by the time it takes effect the 20-30 minute headache usually has subsided spontaneously. Therefore, the use of suppositories properly timed and usually given at bedtime is the most practical method of treatment. Cafergot combined with phenobarbital and bellafoline to counteract side effects is quite effective. Since these headaches occur in clusters of 1-2 daily for a period of days or weeks, the institution of this regimen with the first attack is often most rewarding. Adjunctive measures in treatment include elimination diets, exclusion of alcohol, antihistamines and in protracted and severe forms psychiatric care where indicated. The use of histamine desensitization has given good results according to many authors when the true picture of Horton's "histamine cephalgia" is presented; however, the true role of histamine as a cause of headache is far from settled.

*III Muscular Contraction or Tension Headache:* These headaches are associated with cranial artery constriction and sustained contraction of the skeletal muscle about the face, scalp, and neck. It is a frequent finding in certain tense people. It is known that after a period of muscle contraction and extracranial artery constriction these patients actually develop organic changes in the vessels, with increased, prolonged irritability and ischemic pain from the involved muscles. It is important to realize that these headaches, which we often are



guilty of passing off as purely functional in character, are often associated with head pain from other sources, including migraine headache, inflammatory, traumatic, or neoplastic involvement of tissues or structures within or adjacent to the cranium. The descriptive terms which are applied here are "tightness" bitemporally, or at the occiput, a band-like sensation about the head, cap-like in its distribution; with accompanying symptoms of heaviness, pressure, drawing, and soreness. These headaches are often associated with tender nodules easily palpated in the muscles of the head, neck, and upper back, and can occasionally be associated with tinnitus and vertigo and other wide-spread neurologic or psychiatric symptoms. This type of headache, though it may be fleeting with frequent changes in site and pain, increases in intensity with recurrences. The pain may become localized in one area, and sustained for days, weeks, months, or even years. Most daily recurrent (chronic) headaches following head injuries ("post-traumatic headaches") belong in this category and many such patients may have periodic vascular headaches as well.

*IV Headache and Arterial Hypertension:* Headache is often associated with arterial hypertension in the absence of renal failure or cerebral edema. Two types are encountered: (1) vascular headache, associated with painful distension of one or more branches of the external carotid artery — as in migraine. This usually occurs in the early morning hours between midnight and 4 a.m. and is relieved when the patient gets up and moves about. (2) Muscular contraction headaches similar to those described above, of a non-pulsal character which occur in the occipital region, or as high as the vertex.

*V Headache and Disease of the Nose and Paranasal Sinuses, Eye, Ear and Teeth.*

*A. Headache and disease of the nose and paranasal sinuses.* The location of sinus headache is diffusely frontal (frontal sinuses), zygomatic and nasal (antral sinus) or occasionally behind the eyes and over the vertex (sphenoid and ethmoid sinuses). Typically, sinus headache commences in the morning (frontal) or early afternoon (maxillary) and subsides in the early or late evening. The pain of sinus disease is dull, aching, deep, and seldom if ever associated with nausea and vomiting. The headache may be of low intensity or quite severe. The headache is due to mucosal inflammation and engorgement of the turbinates, ostea, nasofrontal ducts and the superior nasal spaces. An important diagnostic test here is the reduction or elimination of the headache by intranasal application of vasoconstrictor agents or topical anesthetics, especially about the sinuses.

*B. Headache and Disease of the Eye.* Headache in diseases of the eye are relatively uncommon. This can be said with certainty in relation to the neuralgias per se, and there is no question about the fact that the eyes are often held responsible for headaches whereas in few instances can the headache be justly attributed

to the ocular disease; though it can be said with equal honesty that certain headaches are exacerbated by refractive error, intraocular disease, or imbalance of the ocular muscles.

Eyestrain and headaches occur in almost every possible variety, may be referred to every part of the area of the distribution of the ophthalmic division of the 5th cranial nerve or upper cervical nerve. Conforming to no specific type, the headache of eyestrain is difficult to diagnose for certain. It is certainly encouraging to relate it to the use of the eyes, though almost all headaches are exacerbated by the use of the eyes or even in many more exposure to light. Under such symptomatic conditions, it is only rational to examine the eyes as a routine step in all cases where such an origin might be suspected either as an etiologic agent or exacerbating cause of a headache of unrelated origin. The symptoms of eyestrain include burning, tearing or sandy feeling in the eyes, often associated with hyperemia or mild blepharitis. The patient frequently speaks of tired, aching eyes, pain around and in back of the eyes, and pulling sensations. Though perhaps not directly related in many instances are associated symptoms of general fatigue, irritability, dislike for steady or intense close work, and poor performance at work. Drowsiness at work, especially in the evening, and gastric symptoms, especially nausea, are often mentioned, but it seems logical to suspect other causes with a majority of these symptoms in most instances. We all realize that hyperopia, astigmatism, or anomalies of accommodation can produce headache which may start in the periorbital region, extend over the head to the occiput. These headaches are usually relieved by ocular rest, sleep, and, of course, correction of the error in many instances. Headache with muscle imbalance is due to sustained contraction of the scalp and neck muscles. Dizziness, nausea, and vomiting are often frequent concomitants. Inflammation of the eye or orbit, and particularly glaucoma of the narrow-angle type, accounts for discomfort in or about the eyes which usually begins in the latter part of the day of evening; is transient in character, and may or may not be accompanied by slight redness and haloes around lights. In any event, the complete ocular examination, including tension and fields, should be obtained again to rule the eyes in or out as a possible contributing factor to the headache. If one can only find a moderate refractive error, or even if the refractive error is exaggerated, the best advice to give the patient when glasses are ordered is to admonish him that in all likelihood this may not be the complete answer to the headache problem. In addition, the patient should be advised that the prescription is often given as a hopeful measure to alleviate at least partially any contributing cause to the headache problem. In other words, common sense goes a long way to keep the patient intelligently advised as to what is being done, and at the same time set the record straight that the oculist is not under the misconception that he is offering any panacea.

*VI Cranio-Facial Pain or the Typical Neuralgias:* Paroxysmal ischemia of sensory neural structures is the probable cause of head and face pain associated with major neuralgias and the post-infectious neuralgias and neuritides. This is the truest form of neuralgia, and trigeminal neuralgia is more frequently encountered than the other uncommon, even rare, pain syndromes in this group.

Trigeminal neuralgia (*tic douloureux*) is an episodic, recurrent, unilateral pain syndrome occurring principally in persons over 50 years of age. It occurs more commonly in women than in men in a ratio of two to one; more often on the right side of the face. Pain is experienced chiefly in the tissues supplied by the 2nd, and to a lesser extent, the 3rd and 1st divisions of the 5th cranial nerve. Aching and burning in quality, the pain may occur spontaneously, and may be initiated by a light touch on the cheek, or by biting, chewing or laughing. Very slight stimuli in "trigger" areas may precipitate the attack. The pain is a high-intensity jab of 20 to 30 seconds' duration. A series of these pains may last for a period of one or more hours, and a few intensity aching pain may commence after a few hours and sometimes outlast the attack. This type of discomfort occurs during periods of 2 to 3 months or longer, and may diminish or completely subside for a year or more. Once begun, spontaneous recovery is rare, but it does occur, Paroxysms resembling "tic" but usually of several minutes duration are uncommonly associated with intracranial tumors, and their differentiation is discussed in the section on intracranial headaches.

*Treatment of Tic Douloureux.* The pathogenesis of idiopathic *tic douloureux* is unknown. A concept has been proposed that its mechanism is central and that the abnormal over-excitability of the reflex through the trigeminal system is due to senescent changes in the ganglion cells of the trigeminal nucleus. The effect of surgical treatment depends on successful abolition of the abnormal trigeminal reflex. This is accomplished by blocking the peripheral afferent as well as the abnormal central efferent impulses, thereby interrupting the vicious cycle of reverberating excitation from the periphery to the over-excitabile ganglia and back out to the periphery as antidromic discharges to the area supplied by that branch or branches of the trigeminal. Thus success may be met with by many measures including alcohol injection, evulsion or neurectomy of peripheral branches, gasserian ganglion injection of alcohol or hot water, or the more standard neurosurgical procedure of section of the nerve between the ganglia and the pons. Alcohol injection of the gasserian ganglion destroys the sensory nerve cells of the trigeminal nerve, and theoretically effects permanent interruption of sensory impulses without affecting motor fibers, since the cell bodies of the latter fibers are located in the pons. This type of treatment is obviously in the hands of the neurosurgeon and there are many complications and serious defects, one of the most serious of which is

neuroparalytic keratitis. This complication can only be avoided when the sensory root is injected with avoidance of the ophthalmic nerve cells. Suffice it to say that this injection should never be done except by an expert, and many people feel that it should never be used. Jaeger claims 95% cure with hot water injection of the ganglia through the ovale under x-ray control.

Surgical intervention in the treatment of trigeminal neuralgia includes peripheral neurectomy; electrocoagulation of the gasserian ganglion, gasserian ganglionectomy, retrogasserian neurectomy, and medullary tractotomy. Peripheral neurectomy is no longer in favor because regeneration of the nerve with return of its function occurs, and the pain recurs after an interval of the same duration as following alcoholic injections. However, a recent report on first division of neurectomy of all its branches with success in three patients is worthy of consideration. Electrocoagulation of the gasserian ganglion has similarly fallen into disfavor because it is a blind procedure, and therefore inherent with the same complications and frequently effects only partial anesthesia. Gasserian ganglionectomy has been discarded in favor of retrogasserian neurectomy. *Retrogasserian neurectomy or resection of the sensory portion of the trigeminal nerve is thus far the best and most successful method of treating trigeminal neuralgia.* It may be accomplished by the transtemporal or suboccipital approach, and was suggested by Spiller in 1898 and first performed by Framer in 1901. The transtemporal approach is the procedure generally used since it is the simpler and safer in the hands of most neurosurgeons. The mortality in a large series of cases operated by this technique ranges from 0.25 to 1.0 per cent. Retrogasserian neurectomy is inherent with certain complications such as neuroparalytic keratitis and corneal ulceration which is most serious. Framer introduced subtotal resection in which the ophthalmic fibers are spared to obviate this complication, and this operation is excellent in patients in whom the ophthalmic division is not involved in the disease. Facial paralysis occurs in 2 to 5 per cent of the cases and is due to traction on the facial nerve during the transtemporal operation. This often disappears within a few months, but other complications are possible, such as transient deafness, postoperative hemorrhage, and paralysis of the muscles of mastication as well as postoperative paresthesias and dyesthesias. Medullary tractotomy entails a selected division of the descending spinal route of the trigeminal nerve located in the medulla, designed to abolish pain without producing anesthesia to the cornea, loss of the sense of touch in the face, or paralysis of the masticatory muscles. This procedure is much more difficult technically, however, and the potentialities for disaster are greater than with the transtemporal neurectomy. In summary, in the average patient one alcohol or hot water injection should be performed, but if the pain returns, the patient should be encouraged to undergo the curative operation.



*Secondary Trigeminal Neuralgias.* Minor trigeminal neuralgias secondary to tumors, vascular lesions, inflammatory disease, and in particular, herpes zoster, are often very difficult, and constitute what may be considered as a trigeminal neuritis. Here the therapy is directed toward eradication of the primary cause, and analgesics and nerve-blocking may be employed for temporary relief of the pain, and in cases where the primary cause cannot be eradicated, repeated blocks with alcohol may be of great value. It is appropriate here to dwell briefly on the pain of herpes ophthalmicus, which as we all know, is first manifest by neuralgic pain with the distribution of the ophthalmic division of the 5th, which is then followed in a variable period of times, usually within several days, by vesicular eruption. The first indications of this type of eruption are often along the more distal portions of the distribution of the nasociliary branch of the ophthalmic division of the 5th nerve. The pain of herpes ophthalmicus is steady, burning aching, non-throbbing, and is often associated with outaneous hyperalgesia and paresthesia. The treatment of this condition in its acute state is now best managed by hospitalization, careful observation of the eye to pick up any corneal defects or signs in the anterior chamber of uveitis. These patients respond dramatically to the intravenous use of steroids which may be given over several days as 40 mg. by constant drip, and then the treatment may be switched according to the patient's progress to intramuscular injections of ACTHAR gel, again gives over a period of 10 to 14 days in order to complete therapy, depending upon the patient's response to treatment. If during any of this period of treatment there are signs of ocular involvement, it is important to use mydriation and local steroids. It is now fairly well accepted that intravenous procaine and the use of gamma globulin are of no great benefit to these people.

It must always be remembered that trigeminal neuralgia can occur secondary to tumors and vascular lesions. It is not within the province of this paper to dwell upon this except to say that as in all painful syndromes or symptomatology, the typical character of the pain may often steer us away from a basically serious underlying cause such as a neoplasm or vascular lesion or any other anomaly which may produce irritation of the sensory root, gasserian ganglion or nerves. The differential diagnosis here lies in the fact that this secondary type of trigeminal neuralgia is slow in onset, long in duration, and between paroxysms there is a constant, steady ache. Moreover, there is usually a loss of sensation or motor function in the trigeminal territory—something that does not occur with Tic Dououreux.

*VII Inflammation of the Cranial Arteries (Temporal Arteritis):* It is important in the treatment of any of the neuralgias of the head that we familiarize ourselves with the more recently elaborated syndrome of inflammation of the cranial arteries. This relatively uncommon clinical picture is due to nonspecific inflam-

mation of the temporal artery in particular, along with other branches of the external carotid. The disease occurs in elderly individuals of the white race, more commonly men than women is a ratio of 2:1. The process is characterized at its onset by severe throbbing headache, pain in the teeth, ears, jaws, zygomatic and nuchal region. Scalp hyperalgesia, and redness of the skin overlying the exquisitely tender, prominently distended temporal arteries, and facial swelling are usually noted shortly after onset of the headache. The duration of the headache lasts from one week to several weeks or even months.

It is of particular interest to ophthalmologists that visual symptoms are the predominantly serious effect of this nonspecific inflammatory process. Photophobia and diplopia occur early in the syndrome, and later on the most characteristic finding is occlusion of the central retinal arteries with partial, or even complete, loss of vision. The most typical ophthalmoscopic finding which we generally see in office practice after this painful syndrome has been present for any great period of time is that marked vascular constriction and an ischemic type of edema of the nervehead which may have progressed beyond this point to produce true optic atrophy with extreme pallor and either a true primary optic atrophy or that of a mild secondary type of atrophy with ill-defined disc margins. The cup is usually well filled in with glial tissue. It is conceded that this type of optic atrophy is, of course, due to an occlusion of the central retinal artery somewhere along its course and depending upon where the obstruction takes place, the disc will either be seen as completely uninvolved or only secondarily involved as an ascending type of atrophy of the primary type. Additional symptoms related to encephalitis and cerebral damage — mental sluggishness, dizziness, vomiting, and dysarthria may occur during the acute phase. It is certainly worth while doing peripheral vascular studies, and particularly bearing in mind the fact that periarteritis nodosa and other so-called collagen diseases are oftentimes related to this type of neuralgia and affection of the optic nerve.

Therapy centers about the early administration of steroids, particularly large doses of cortisone orally, when instituted before serious optic nerve injury, sequelae are minimized.

*Intracranial Headaches:* The previous section is devoted entirely to the extra-cranial form of headaches, but, as indicated in each section, it is very possible that from the migraine syndrome down to the more specific types of typical or atypical neuralgias, the pain, through extra-cranial in distribution, may often arise from disturbances of pain-sensitive structures within the skull.

Through observations made during neurological exposure of various parts of the brain, the principal intracranial, pain-sensitive structures were identified. These include the great venous sinuses; their venous tributaries from the surface of the brain; parts of the dura at the base; the dural arteries (notably the middle

meningeal); the cerebral arteries at the base of the brain, and the intracranial portions of the nerve carrying afferents — namely, the 5th, 7th, 9th, and 10th cranial nerves, and the upper two of the three cervical nerves. Appropriate stimulation of these structures evokes pain in various parts of the head, indistinguishable as to quality and location from the headaches associated with disease of these tissues.

Headaches from structures on or above the superior surface of the cerebellum are experienced in various regions in front on a vertical plane, and joining the ears across the top of the head (fronto-temporal-parietal). The 5th cranial nerve carries the sensory fibers for pain from this source. Headache experienced behind this line (occipital) has its origin from structures on or below the inferior surface of the tentorium cerebelli. The afferent fibers for this pain are carried in the 9th and 10th cranial nerves and upper 3 cervical nerves.

The cerebrospinal fluid per se is not directly related to headache. Headache due to intracranial disease occurs with corneal C.S.F. pressure and conversely, some patients may be free of headaches despite a considerably elevated C.S.F. pressure. From clinical and experimental data the following six basic mechanisms of headache from intracranial sources are clinically important:

- (1) Traction on the venous tributaries to the venous sinuses from the surface of the brain, and displacement of the great venous sinuses.
- (2) Traction on the middle meningeal arteries.
- (3) Traction on the large arteries at the base of the brain and the remaining branches.
- (4) Direct pressure by tumors on the cranial and cervical nerves containing afferent pain fibers from the head.
- (5) Inflammation in and about any of the pain-sensitive structures of the head, and the pia and dura at the base of the brain.
- (6) Distention and dilatation of the intracranial arteries.

The first four of the above mechanisms are commonly associated with the headache of brain tumor. Since the intracranial structures are enclosed in a rigid bony container, headache in various parts of the head quite remote from a space-occupying lesion is not uncommon. It is our responsibility always to be alert to the possibility of a brain tumor whenever severe or persistent headache is present, and particularly in a patient who has not previously had headache, or where the headache changes its side, quality or intensity, as compared with the chronic varieties.

The headache of space-occupying intracranial lesions is deep aching, steady and dull. Very seldom is it rhythmic or throbbing as are the majority of the extracranial headaches. The headache of brain tumor is often worse during the acute phase of even minor infections, particularly acute upper respiratory infections. The headache is worse on standing, and if it varies at all during the 24 hour cycle, it is usually worse in the

morning. Acetylsalicylic acid in 0.3 gm, amounts and local application of cold packs may diminish the intensity of the head pain. Except terminally in some instances, the headache is rarely as intense as that associated with migraine, cluster headache, cerebral aneurysm or meningitis. Even when there is direct compression or extensive traction on pain-sensitive cranial nerves by slowly growing tumor, headache may be absent or slight, and rarely is as intense as the pain of tic douloureux. The differential diagnosis between paroxysmal cranial facial pain and the pain of tumors around the distribution of the 5th nerve has been mentioned previously. Tumor headache is often associated with nausea and vomiting; however, vomiting often occurs without nausea, and is then the result of displacement or compression of the medulla, in which case it is projectile, at least in part, because when nausea is slight or absent, vomiting is unexpected.

In the absence of papilledema, the headache is two-thirds of the patient's immediately overlies or is near the tumor, and in all, when unilateral, is on the same side as the tumor. With the exception of cerebropontine angle tumor, headache is almost always present with and usually the first symptom of tumors in the posterior fossa. Headache occurs as the first symptom of supratentorial tumors in one-third of cases, and in the absence of papilledema is rarely in the back of the head. When posterior headache is associated with supratentorial tumors, papilledema is often notable. It is the duty of the ophthalmologist always to perform visual field tests in any patient with prolonged headache, to rule out not only a brain tumor but other intracranial masses such as brain abscess or subdural hematoma. The treatment of those disorders is associated with a direct attack on the underlying process which is obviously in the province of the neurosurgeon. In the latter instance, with associated disease of the nasal and oral structures, often long preceding the symptoms of a brain abscess, attention should be directed particularly to the optic nerves and the state of consciousness of the patient, and the possibly associated findings of fever, leukocytosis, and pleocytosis. Following head injury subdural hematoma is not at all uncommon, but it should be emphasized that it is often very difficult to elicit a history of trauma. Headache is a very predominant part of this syndrome, and here again particular attention to the eyegrounds is of great significance as well as visual field examinations; and in this instance the neurosurgeon should be called in immediately if a suspicion of this tumor is apparent, since sudden changes for the worse are quite common. Electroencephalograms and arteriograms may be helpful in diagnosis, but exploration through bilateral trephination is the only reliable diagnostic and therapeutic procedure. Evacuation of the sac of the subdural hematoma must often-times be carried out, but the specific details of this type of treatment are not within the province of this paper.



*Headache Due to Inflammation:* Meningitis, encephalitis, and localized inflammation of the dura, and/or epidural abscess are associated with headache and head pain. The headache is of high intensity, continuous and throbbing, and often associated with extreme photophobia. Neck rigidity is the obvious diagnostic point in this instance, and if the cerebrospinal fluid pressure is elevated, repeated spinal taps are of great benefit, and of greater therapeutic value than subtemporal decompressions or more wide surgical decompression. The headache in this instance is due to traction and displacement of inflamed intracranial structures. Treatment is directed towards eradication of the specific type of infectious agent encountered through cultures of the cerebrospinal fluid.

*Subarachnoid Hemorrhage:* Subarachnoid hemorrhage most commonly results from rupture of an intracranial aneurysm. The headache is sudden in onset and of high intensity. A common descriptive phrase is, "something suddenly snapped inside the head." The snapping is followed by intense throbbing headache; commonly over the occiput at the outset, the pain then radiates down the neck and back. Less frequently the site of the initial headache is frontal (on one or both sides), temporal, at the vertex, or deep in the eye; but it soon radiates into the occiput. In more than 50% of the patients the onset of intense pain is accompanied by vomiting, grogginess, neck rigidity, and loss of consciousness. In 10% of patients convulsions follow the onset of the headache. In addition, many of those patients who do not have a sudden rupture with massive subarachnoid hemorrhage have pain along the distribution of the 5th cranial nerve, particularly in and about the eye. This may or may not be accompanied by the most common ocular manifestations of intracranial aneurysm, namely, ptosis, with partial or complete paralysis of the extraocular muscles innervated by the 3rd nerve. The pain in this instance has been quoted by many authors as indicative of activity of the aneurysm, or rather enlargement of the aneurysm, and again, traction on a pain-sensitive structure, the arterial wall itself, or adjacent nerve structures such as the 5th cranial nerve. When these findings present themselves, the patient should immediately be referred to a neurologic or neuro-

surgical service where definitive treatment is directed towards ligation of the aneurysm itself, or of the internal carotid in the neck. Treatment of this disorder varies largely with the position and size of the aneurysm. If the aneurysm is located above the clinoid process, is free of the cavernous sinus, and is favorably located upon the anterior cerebral artery particularly, it is accessible to trapping operation intracranially. If the aneurysm is located within the cavernous sinus, it is obviously inaccessible to surgical intervention, and in this instance, ligation of the internal carotid in the neck is the only method of choice, if tolerated.

#### SUMMARY

Ninety-five percent of headaches encountered by the physician arise from painful distention of certain branches of the external carotid artery and/or sustained contraction of ischemic skeletal muscle about the face, scalp and neck. Migraine headache, a typical facial neuralgias, post-traumatic headache, and most headaches associated with arterial hypertension are included in the above categories of extracranial headache. Less commonly, headache is directly attributable to a disease of the eyes, nose, paranasal sinuses, ears, and teeth; and sensory ganglion, root, or nerve disorders involving the face. Rarely, inflammation of cranial arteries is the cause of headache, i.e., cranial arteritis. Intracranial pain-sensitive structures are more ominous sources of headache. Space-occupying lesions (neoplasms, hemorrhage), inflammation of the meninges, and distention of the intracranial arteries in certain instances of vascular headache of migraine type are examples of other causes. The treatment of these disorders is, first, based upon a logical and intelligent interpretation of the symptoms of the headache, and proper classification of these findings. Without this approach, the treatment is inconsistent and ineffectual. We have given in some detail the modern management of all of the principal cranial neuralgias. The newer advances in surgical and medical therapy will undoubtedly add greatly to our armamentarium in the near future, since it has only been during the past 10 or 15 years that we have intelligently understood these conditions.

1711 Rittenhouse Square, Philadelphia 3, Pennsylvania

# The Potential Physician

PHILIP P. THOMPSON, JR., M.D.\*

That the middle must support the ends, is a physical as well as sociological axiom. For either end of the age scale you the physician are both fulcrum and stays or guiding force.

We, as physicians, are in this supporting and guiding role because of our own success in keeping more people alive and our own failure to medically orientate the young students.

The stark unpleasant facts are that there is a scarcity of potential physicians and the senior citizens need our protection from the well meaning "socialists" who are attempting to legislate the answers to health and happiness.

The physicians have no refuge, no "leg-men," no hired hands to perform these tasks. Only the doctors singly and collectively can reachieve success in this badly bungled business. Our own lack of foresight, apathy, and blindness to long-standing and now apparent trends has helped to create our present dilemma. It is, now our responsibility to lead the way toward the resolution of these problems. How well we do the job may influence the decision of the public as to whether we continue to practice medicine as independent physicians or as government agents.

## MEDICAL RECRUITMENT

The facts are that there are fewer students seeking admission to medical schools. The medical personnel needs of the country are to increase far beyond the present supply. The expansion of medical schools is necessary. The A.M.A. and others are working on this facet of the problem. Except for our individual contribution to A.M.E.F., (which in Maine is far below our share) and continuation of the study relative to the feasibility of establishing a two year basic science school in Maine, there is little more we can do about it.

However, we can and must recruit new talent for medicine from the intelligent and conscientious youth. As important as is the recruitment, the inspiration and dedication that we must provide for these potential medical students are even more critical.

Formerly, the doctor provided this inspiration for his apprentice on a very intimate and personal level. The

practicing physician no longer has his pupil. The medical schools provide adequately for the scientific education of the student. The "Art of Medicine" and dedication to the profession must be learned and inculcated at the patient's bedside and at the physician's side. There is little that is warm, inspiring or capable of the development of dedication in the science of medicine except for those inclined toward research.

Since we in Maine have little contact with medical students we must focus our efforts on the secondary school or college student where enthusiasm is at a peak. The minds of these boys are fertile fields for making lasting impressions.

Science Fairs have become popular and created widespread interest in almost every school in the State. Individual doctors and County Societies should offer prizes, act as judges, guide and suggest projects of boys and girls working on biological or other subjects related in any way to medicine. The future scientific brains of the U. S. are represented at these fairs. These exhibitors should be the targets of our interests and efforts. Every other scientific profession has been aiming at and enticing these groups to their field for a long time.

Other methods we might use to interest the students might include some of the following:

1. Health Fairs — with County, State and A.M.A. participation.
2. Guided tours through local hospitals, doctor's offices, or clinics.
3. Individuals with special interests or qualifications might be taken on "A Day with a Doctor" round. Such a project might well appeal to your own son.
4. Guidance talks at schools.
5. Showing the film "I am a Doctor" which is available at the M.M.A. office in Brunswick.

Assuming that we are successful in guiding a sufficient number of qualified dedicated young men to medicine, it is then a matter of assisting them financially through this medical education. The chief deterrent to college graduates from going into medicine is the cost of financing four to eight more years of education. The A.M.A. has appointed a committee to investigate means of assisting with scholarship funds. Our own society is now in the process of enlarging its scholarship program. This is certainly one of the first and most important steps we can take to encourage and insure more young physicians to return to Maine to practice.

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704 Congress Street, Portland 4, Maine



## SPECIAL ARTICLE

## Ninth Inning Strategy

FRANK M. COFFIN\*

Eleven percent of the people of Maine — 101,000 — are over 65 years of age. This percentage is one of the very highest in the United States. When such a large part of our population shares many of the same health, economic and social problems, it follows that constructive thinking about solutions to these problems should be demanded of anyone who aspires to a position of leadership in this state.

The very first problem faced by one who wants to do some serious thinking about the pattern of problems shared by this 11% of our people is that of a concept. It is no longer considered helpful to talk in terms of "the aged." Even "the elderly" is not found too helpful a term — in view of the extreme variety of capabilities found in those over 65. The phrase "senior citizens" seems to be enjoying current popularity. We also hear many glowing references to "the golden years." Perhaps the term in widest use is "the aging."

I find difficulty with all of these terms. To talk of "the aging" is to talk about all ages; one really ages more from birth to the age of ten than he does from 65 to 75. To talk of "senior citizens" carries a note of cloying separatism. All of the terms suffer from the same basic faults; they set aside those over 65. And they are defeatist in that they somehow stress the lessening of powers rather than the challenge of continuing adaptations to live life to the fullest in the bonus years which medical science is giving us in increasing measure.

Let me say that I think the time has come to forget the figure 65. The age of 65 no longer has the meaning it once had. It has become as obsolete as the Model T Ford. There is reason to believe that this became the magic figure for discussing the problems of the elderly when the "Iron Duke" Bismark fixed it for the welfare programs in 19th century Germany. Sweden, France, and Austria appear to have adopted it since they had no figures of their own. Today this figure is a remnant of the past, as far as indicating the problems of age is concerned.

For the purpose of discussing the subject of opportunity in our later years, let us look on every stage of our development as equally full of potential. To use the analogy of a ball game, the ninth inning is often

the most rewarding and exciting. To see that the game is well played in the ninth deserves as much of our concern and effort as the earlier innings. Indeed, the whole object of medical progress will be reduced to bitter irony if we prolong life only to find we have added to the traditional span, years of deprivation, insecurity, and isolation.

Living is our problem and our opportunity. The nature of the problems and the opportunities change as we grow. But there should be no point where we cease to concentrate on the opportunities, the growth element, the rewarding side.

There are eight points of emphasis that must be reflected in a successful strategy to reach our full potential in the critical ninth inning. These points are made with full realization that the next few months will see perhaps the greatest commingling of facts and ideas concerning problems of living in advanced years that has ever taken place. In January, 1961 there will be a White House Conference on Aging. In preparation for this, our own State Committee on the Aging, newly enlarged, will hold a conference in September.

Such conferences present unequalled opportunities for raising our sights, deepening our understanding, and establishing what can amount to a breakthrough in the effectiveness of private, community, state and federal cooperative action. But the opportunities can be seized only if we enter this period of intensive conferencing with specific questions about recognized problem areas. My eight "points of emphasis" are outlined, therefore, in a spirit of trying to develop the right questions rather than in a spirit of attempting to phrase final answers.

## THE NEED FOR SPECIFICS

Here, as in every other field of social need, there are many areas where more precise facts are required if we are to act sensibly. I am not referring to the basic work on our aged now being done by the Northeast Research Foundation for the Committee on the Aging, nor to the volumes of material that will be forthcoming from the White House Conference.

My concern is for the kind of facts with a focus on specific problems that can serve as a basis for action, whether on a private, community or state level. For

\*Congressman, First District, State of Maine

example, in one Maine Community, a wealthy resident was ready to give a substantial sum for a home for the elderly and additional money was raised locally. The architect had done much of his work when it was suddenly recognized that no one knew how many elderly needed a home, or desired it, or would use it. The same kind of need for specific facts exists across the whole range of problems — from health to housing, from occupation to recreation.

As we move on in our efforts to deal successfully with these problems, facts must be gathered and studied, not just by the federal and state governments — but by professional groups, by communities, and by areas. I stress this obvious point only because in this field we are tempted to generalize about the problems and sometimes to propose unrealistic solutions. In this field above all others, is there a need for varied approaches, tailored to the specific problems as they exist.

#### MULTI-LEVEL APPROACHES

Implied in what I have said about getting the specific facts in recognition of the need for action at many levels, and from many directions. There is a tendency to feel that all that is needed is some action at the federal level to provide for the health needs of older people. For example, there is the problem of those who are able to get along on moderate savings and small incomes until catastrophic illness leaves them practically bereft. Their problem is of high importance. But it would be folly not to force our thinking and planning beyond any one solution to any one problem. Beyond lies the challenge of the economic health, housing, occupational, recreational and social need of older persons — a challenge requiring the full use of all the resources at our disposal. This means involving the health professions, the hospitals and nursing homes, communities, labor and management, individual citizens, and the agencies and departments of state and federal government. These resources should be used with some sense of what can best be done with each kind of resource. In this conscious attempt to mount a concerted assault on the problems of illness and insecurity and isolation, deprivation and want faced by the elderly, many roles must be played. In working out this many-tiered approach, the state government should be in a position to coordinate proposals and ideas and to stimulate fresh thinking and solutions.

#### INFORMATION AS A WEAPON

One of the simplest and most effective weapons at our disposal is information. For lack of information, elderly people drift into health problems, overlook programs of economic, vocational and recreational assistance, and generally lessen their own chances to remain healthy, independent and well adjusted.

Let me cite the testimony of a person who has held consultations on financial matters with 150 older Maine farm families in the past three years. He found that

many were not adequately informed about even such a vital resource as Social Security. His conclusion, in his own words, was, "I found in my experience that 80% of those who applied for consultation could be helped materially." He was not criticizing the efforts of the Social Security staffs in Maine, but merely pointing out that in remote areas, information itself was often one of the great needs.

There is, therefore, the necessity for a center of information in every community oriented to the problem faced by the elderly. This center — whether it is a local community council, a town official, a volunteer group, or even an individual — ought to be able to guide an older person in his or her search for help by referrals to the sources of help. Here, then, is the simplest level of effort — communication of information.

#### HEALTH NEEDS

"Ninth inning strategy" calls for placing top priority on the preservation of the health of older people. Prevention, care, and rehabilitation are equally important.

After rather intensive discussion with some of our Maine pioneers who have been doing outstanding work in health care for the elderly, I suggest that we make a special effort in the following areas:

1. *Health Education* All of us, whether of few years or many, place too little value on knowing and following the rules of good health. Health education can be carried on in a variety of ways. One key starting point is the doctor's office. Doctors themselves tell me that much more can be done by doctors and county medical associations to help patients in understanding their problems and caring for themselves. Health education should be part of the routine of every office or institution where there are out-patients. Public health nurses are in a position to impart health information for the elderly. The need for regular attention and information about facilities can be publicized more effectively through the newspapers, radio, television, and the many service clubs of the state.

2. *Dehospitalization* All of us know the mounting costs of hospital care. What we may not know is that as much as 32% of hospital days are taken up by 10% of the patients who could properly be cared for outside the hospital. There is growing emphasis on accelerating the return of patients to the community — whether the patients are hospitalized for physical or mental afflictions. Crowding and lack of staff makes this necessary; new drugs and treatment make this possible; the social value of community living makes this desirable. But the challenge is to devise programs in the community to provide the right kind of care and environment.

The goal of reducing hospital time can be achieved only with a variety of tools. The first is good outpatient departments at hospitals. The object would be

*Continued on page 338*



*wherever there is inflammation, swelling, pain*

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
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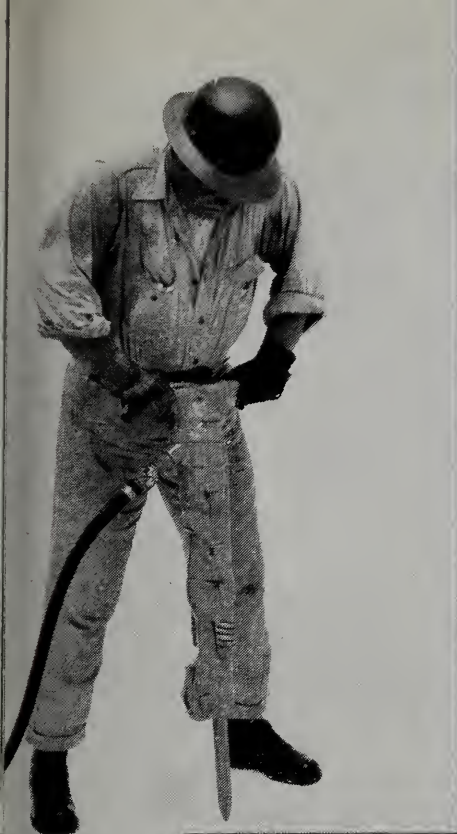
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1. Innerfield, I.: Clinical report cited with permission
2. Clinical report cited with permission

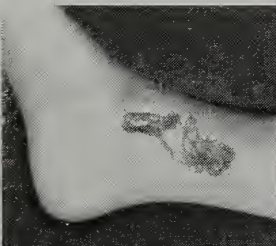
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to have older people living in their normal environment, having learned how they can best live with and care for their disabilities and handicaps and returning when necessary to the hospital not only for treatment but for guided exercise. I am told that the geriatric clinic at Waterville's Thayer Hospital has been so successful that patients simply can't keep their appointments. They are too busy to keep them because they have adjusted so well to daily living.

For hospitals to provide these facilities, additional funds may well be necessary. But there would be savings in the reduction of prolonged hospital stays which so often exhaust the financial reserves of the patient or must be written off by the hospital as a financial loss. In those cases where medical care is paid for with public funds, we need a prompt review of current hospital costs and the kinds and numbers of referrals. A review of cases at the Thayer Hospital shows that State Aid Cases remained in the hospital 13 days, while the private patient averaged only 5 to 6 days. We should know more of the reasons why this is so. If we accept in principle the State's responsibility for the care of public welfare cases, we must be realistic in meeting our financial obligations from public money. If an increase in state payments for medical care is indicated, private funds could then be released for the kinds of rehabilitative facilities which can stretch the dollar farther than can the hospital bed.

Dehospitalization also requires a good public health nurse or a visiting nurse service in every community. An inspiring example is provided in Biddeford and Saco where community interest has made possible a good visiting nurse service.

These services need to be supplemented by a home-maker service providing home care for the elderly who need regular or occasional help in their daily tasks. Let me quote from a Maine lady who wrote me as follows: "An elderly woman lives alone and likes it. She gets along fine except when she can't go out in the winter because of a cold, or icy walking. Then she does without the food or medicine she needs. Finally her doctor decides she must go into a 'home.' She is most unhappy there. Soon the expense uses up her own means and she has to ask the state for Old Age Assistance. Now if this woman had been helped by a Visiting Housekeeper the times she couldn't get out, she could have stayed at home and the State would have saved money."

Finally, dehospitalization — and the effort to prevent need for hospital care — requires a different attitude toward the function and importance of the nursing home. It must be thought of not as a place of custodial care alone, but as a vital center of well-adjusted living for the elderly. There are over 2,000 nursing home beds in Maine and I am told that there is a great difference among the homes in their structure, equipment and staff. What can be done? There are several hopeful avenues of effort. The most important need is

for a closer relationship between the home and the doctor. In Waterville, where a research grant has allowed doctors to visit all the nursing homes in the area, the results have been dramatic, in terms of patient care and staff training. I am aware of the urgent need for more doctors in Maine and of the fact that 93 Maine communities are today looking for general practitioners to care for people in widely scattered rural areas. A closer relationship between the nursing home and the physician might very well relieve some of the strain on our overburdened doctors.

A second approach is to make physio and occupational therapy available at each home. The State might be well-advised to launch a pilot program to see whether the results justify the expenditure of time and funds. My guess is that it would justify itself in a short time.

The good will of private citizens could be invested in a system of volunteer auxiliaries to nursing homes in much the same way that it could be channeled into volunteer homemaking service for the elderly. The work in hospitals and at the Veterans' Center has proved of great value. Nursing homes offer the same opportunity for this kind of dedicated and rewarding effort.

With good nursing homes, visiting nurses, home-maker services, it is estimated that nearly half of the patients in nursing homes can be largely rehabilitated and returned to their own or to other private homes.

Think what a benevolent chain reaction is possible: from hospitals to nursing homes and from these to private homes . . . If only we provide the links in the chain.

Even if we look on this with a cool financial eye, there is reward for cooperative effort. I am told that nursing homes often pay ten cents for a gauze bandage that costs a hospital only two cents. Group purchasing and planning would reduce costs.

#### WORK NEEDS

Maine people are happier when they are working at something they can do well. Probably this is true of most people.

Our Employment Service has a program directed toward finding good opportunities for older and middle-age people. But not enough effort has been made either by our public agencies or by labor organizations or private industry. More reliable statistical information is necessary. Job counselling and retraining would help to keep many useful, productive workers in our labor force and, in turn, give them the chance to be more active and useful.

In Maine, where so many have developed special skills and talents, handicrafts offer a unique opportunity. Anyone who has seen a grizzled fisherman carve a sea gull or a retired sea captain shape a model clipper ship, knows the capabilities of those who are experienced and painstaking. A program for people with these rare inclinations and talents, with a sales outlet initially

stimulated by private, community, state or local funds, would be one of the obvious ways in which Maine could place its trademark on good living for its citizens.

#### SOCIAL NEEDS

One of the ironies of life is that as one accumulates experience in living, it is more difficult to share it with others. Perhaps the most important non-material need of the elderly is to "belong." How can we attack the specter of social isolation that threatens all of us as we grow older?

I have mentioned the geriatric clinic at Thayer Hospital. One of the reasons for its success has been the chance for older persons to be with others in a common activity. Recreation programs offer a challenge and many towns which have proven attractive to retired people have begun to respond in both formal and informal ways. Here in our State people are eager for any opportunity. Bangor has started a series of educational meetings for the elderly through the school system. Although there was a minimum of publicity, 70 people joined enthusiastically. As we learn more of the response to these scattered efforts, we became more aware of how great is the need and desire for them.

But if the social needs of the elderly are to be met sensibly, our efforts must be thoughtful and orderly. The Committee for the Aging should set as one of its first tasks, the communication of information and the exercise of leadership.

#### HOUSING NEEDS

Special knowledge and a great deal of factual information is required to establish special housing for elderly people. How many of them can live by themselves? How many want to? What type of environment and accommodation is most suitable? To what extent are apartments practical? How should housing accommodations be equipped and financed? Is there a need for day and night centers, which can serve double duty for those who need accommodation only during the day or only during the night? This is perhaps a more urgent problem in populous centers than in more casual, neighborly rural living. But we should watch closely experiments elsewhere to learn whether they are adaptable and useful in our own surroundings. The U. S. Department of Labor, for example, has an excellent publication on the kinds of houses best suited to older people.

#### ECONOMIC NEEDS

Almost 12,000 of the 101,000 Maine people who are over 65 are receiving Old Age Assistance. The average individual in this group needs \$91.72 a month for food, clothing, shelter and other minimum needs. Including Social Security payments, and other outside income, this person receives about \$25.50 a month, to which is added the check for \$53.78 under the Old Age Assistance program. This means that he has \$12.44

less than he needs to cover the cost of necessities and that there is a 14% gap which spells the difference between self-sufficiency and privation. This \$12.44, in other words, means some hunger, some shabbiness, some discomfort every month of each waning year.

This is why I say the provision for more adequate income should be a first consideration in any program for expanded services for the aged. An important element in our consideration should be a decision as to whether the state continues to demand payments by the relatives of those receiving Old Age Assistance. Are we willing to increase State Assistance even in amounts necessary to cover the payments now collected from relatives? Do we know how many people who are eligible for Old Age Assistance and are not applying, would apply if their sons and daughters were not forced to contribute? Have we made the basic decision whether this kind of family contribution is a moral obligation or simply a bureaucratic regulation that is impossible to administer? I am sympathetic to the reasons for the wide demand for abolishing this requirement and I believe that we should begin now to move toward a decision as to whether we should abolish it, continue it or modify it. But action should be based on a thorough understanding of the social need, the costs and obligations that are implicit in our decision. In my opinion the dissatisfaction with this phase of the Old Age Assistance program indicates that the State Advisory Council on Health and Welfare and the Committee on the Aging should join in a study and report their recommendations as speedily as possible.

#### WHAT CAN STATE GOVERNMENT DO?

Apart from the questions I have raised and the possible courses of action I have indicated, state government can and should play a vital role in providing leadership, stimulation and coordination. If the Maine Committee on the Aging is to continue its present role and assume new responsibility in this emerging field, it must have sufficient staff to carry out technical assignments; to act as a catalyst for other ideas and efforts and respond to the need for assimilating and passing on information. Probably the most pressing needs are for a person trained in health education and for a secretary. This Committee, so equipped, can be a catalytic agent, which can work constructively with the Medical Association Committee on Aging, nursing homes, and communities.

But there is a need for coordinating the activities of various state and federal agencies. This task demands a response from no less an office than that of the Governor. I am recommending elsewhere that the Governor be provided with additional personnel to help him carry out his duties as Chief Executive. A proper function of such personnel would be to coordinate all state and federal activities in Maine having to do with programs for the elderly. The Governor would then be in a position to give leadership and direction to all



our efforts to realize the full potential of living life to its fullest.

In summary, these "points of emphasis" concern questions of need — the need for specifics, for multi-level approaches, and for information; the need for assistance to older persons in the fields of health, occupation, social activity, housing and economic betterment. Although I have not attempted to give final

answers, I have tried to indicate areas of action where I believe combined government, private, group and individual effort can and must provide concrete answers before long. A governor of Maine must take a responsible role of leadership in this effort.

We would then have a better than even chance of winning the game in the ninth inning.

460 Main St., Lewiston, Maine

## THE PROGNOSTIC SIGNIFICANCE OF THE "PICKING SEQUENCE" — *Continued from page 324*

sonality deterioration. One year before death, he developed a right hemiplegia with left facial paresis, dysphagia (requiring tube feeding for three months) which was followed by a bronchopneumonia and diabetic acidosis and transient hypotension from which he recovered. At no time during the multiple system involvement did the picking sequence develop. Approximately one year after the onset of the posterior inferior cerebellar artery thrombosis, he developed a bronchopneumonia. Within twenty four hours after the onset of the fever, he started to pick with his left hand as well as tug at his genitalia. The paralyzed right hand remained immobile. He died two days later.

CASE 2. A 72 year old male had an acute myocardial infarction on the second day post operatively following surgery for a non-malignant abdominal lesion. At 10 A.M. he went into shock, his blood pressure was maintained at 110/60 with Levophed® in a constant intravenous drip. He became restless and agitated, without change in the physical findings. About 10:30 A.M., he started to pick at his abdomen, and expired in four hours. This was the only person I have ob-

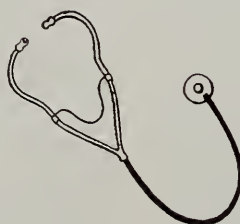
served who attempted to pick simultaneously with both hands; however, with Demerol® and constant nursing care the arm having the Levophed infusion could be kept quiescent with the patient able to respond to painful stimuli.

### DISCUSSION

A sign, possibly newly described, herein called the "picking sequence" has been discussed as a harbinger of death. The picking sequence is conjectured as being initiated by an acute diminution of cerebral circulation. Perhaps it is of some significance that a somewhat similar phenomenon as picking occurs in Delirium Tremors, when the cerebral physiology is greatly altered, producing disorientation, confusion, restlessness and changing levels of awareness. The "brushing of the insects off the body" in delirium tremors, however, is not associated with a prognostic significance.

As of the present, I have been unable to determine, in the appropriate situation, whether a person will or will not develop the picking sequence before death.

14 Gilman St., Waterville, Maine



# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **Stunned But Not Killed Is "Socialized Medicine"**

A Senate vote rejecting eldercare in the social security mould only put the issue to sleep over the late summer and fall seasons. It will be revived this winter in the halls of Congress regardless of election results. Meantime, for a sleeper it will be a lively somnambulist. Senator Kennedy, co-sponsor of the amendment which the Senate turned down by a vote of 51-44, says he will give the subject top priority among domestic issues in his campaign log. Representative John W. McCormack (R., Mass.), House majority leader, predicts enactment of social security eldercare is a matter of time. Representative Aime J. Forand (D., RI) told a correspondent he will fight for this principle even harder as a *former* member of Congress (he's retiring soon).

### *The Eisenhower Influence*

Closeness of the vote makes it clear beyond question that President Eisenhower's consistent opposition to the Forand-Anderson-Kennedy scheme spelled difference between success and failure. Even a slightly less affirmative attitude on his part, coupled with some diminution of the veto threat, would have meant a shift of the four votes required to reverse the outcome. Herein lies an ironic note, for the Eisenhower Administration actually fostered the "disability freeze" and reduction of disability insurance eligibility age from 65 to 50 — both reforms characterized as "socialized medicine" when they were first proposed.

Organized medicine fiercely resisted lowering of the age floor to 50 because it predicted, quite accurately, that eventually the floor would be abolished altogether. This has now been done, on Republican initiative, by provision of the new social security amendment en route to the White House for approval. Note: It preserves MD coverage exemption.

### *Prospects For Next Year*

On the basis of platform pledges, campaign promises and likelihood of big Democratic majorities in the House and Senate next January, a Kennedy victory means enactment of social security eldercare early in the 87th Congress. Election of Richard M. Nixon would not preclude similar action. On this question he is more flexible than President Eisenhower; further, he would be less likely to command the following of liberal Republicans.

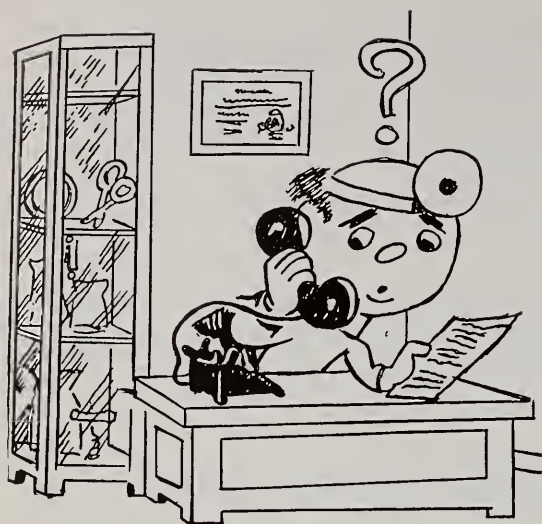
### **Colon And Rectal Cancer Patients Sought By NIH**

National Institutes of Health is soliciting cooperation of private physicians in its new studies of colon and rectal carcinoma. Patients accepted for clinical investigation must be ambulatory; have normal leukocyte count, renal and hepatic function, and have metastases in lung, peripheral lymph nodes or skin.

NIH Clinical Center cites encouraging results in treatment of gi carcinoma with pyrimidine analogues

*Continued on Page 345*





# ANSWERING QUESTIONS



## Blue Shield And Our National Leadership

The American Medical Association's recent declaration of renewed support for Blue Shield demonstrates that the national leadership of our profession recognizes the importance most of us in the state and county medical societies long ago attached to our support of our local Plans. In its essence, the action of the A.M.A. House of Delegates comprises an acknowledgment that medicine's own sponsored Blue Shield prepayment plans need all the support, understanding and guidance we can give them — at every level of our professional activity.

Although each of the nation's 68 Blue Shield Plans was created by local county or state societies to meet the particular needs of their own communities, the emergence of medical care as a national issue has compelled our profession to forge Blue Shield into an instrument capable of meeting and solving prepayment problems on a national scale.

In the past two decades, both management and labor have firmly embraced the principle of industry-wide bargaining. Employers, through merger and trade association action—and workers, through nation wide unions are increasingly concerning themselves with welfare and health programs extending from coast to coast and from border to border.

Whether we like it or not, the future of medical practice will be shaped by great continental interests and forces. If we wish to preserve the principles of free enterprise and individual integrity in American medicine, we must look to the national spokesmen of our profession for the same bold leadership and firm support of the Blue Shield concept that the leaders of the state and county sponsoring societies have given Blue Shield during all its tender years.

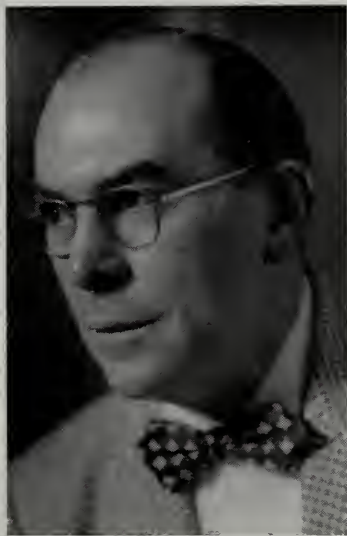
# From the Secretary's Notebook

(Continued from the August issue, page 304)

## 107th Annual Session

### Election of Councilors

Thomas A. Martin, M.D. of Portland was elected Councilor for the First District (Cumberland and York counties) and James A. MacDougall, M.D. of Rumford, Councilor for the Second District (Androscoggin, Franklin and Oxford counties), at the second meeting of the House of Delegates of the Maine Medical Association on Sunday, June 19.



Thomas A. Martin, M.D.

### Election of President-elect

Carl E. Richards, M.D. of Sanford was elected President-elect of the Maine Medical Association at the General Assembly on Monday afternoon, June 20.

## 1959-1960 Committee Meetings

### Diabetes Committee

A joint meeting of members of the Maine Medical Association's Committee on Diabetes, County Society Chairmen, Maine Pharmaceutical Association Diabetes Committee members and representatives from the State of Maine Department of Health and Welfare was held at the Poland Spring House on Sunday, September 18, 1960 to make plans for Diabetic Detection Week from November 13 to 19.

### Rural Health Committee

Paul R. Briggs, M.D. of Hartland, Chairman of the Rural Health Committee, presided at a meeting of this Committee on Thursday, September 15 at The Stowe House in Brunswick.

Dean Fisher, M.D., Commissioner of the State of Maine Department of Health and Welfare, was present at this meeting as well as representatives from the Maine Extension Cooperative Service.

## Watch Your Mail For

1. Multidisciplinary Questionnaire with explanatory letter from Paul S. Hill, Jr., M.D., Chairman of the M.M.A. Committee on Nursing and Medical Problems, and George O. Chase, M.D., committee member.
2. Statement for the Special Assessment of \$25.00 being sent to each active member (see August Journal, page 304).
3. Information re: Fall Clinical Session.

## Fall Clinical Session

Lewiston, Maine — Saturday, November 12, 1960

### St. Mary's Hospital

- 1:00 P.M. — Luncheon
- 2:00 to 5:00 P.M. — Scientific Program
- Desaulniers Hall
- 5:00 to 6:00 P.M. — Tour of hospital

### DeWitt Hotel

- 6:00 P.M. — Cocktails
- 7:00 P.M. — Dinner
- Speaker: Dr. Charles F. Phillips, President, Bates College
- Subject: To be announced

### Program Committee

- General Chairman, Waldo A. Clapp, M.D.
- Scientific Committee:
  - Paul J. LaFlamme, M.D., Chairman
  - Charles A. Hannigan, M.D.
  - J. Paul Nadeau, M.D.
- Luncheon Committee:
  - Daniel R. Shields, M.D.
  - Cyprien L. Martel, Jr., M.D.
- Dinner Committee:
  - John A. James, M.D.

Complete program will be published in the October issue of the Journal.



# Maine Medical Association

## SPECIAL COMMITTEES — 1960-1961

The following Special Committees for 1960-1961 have been appointed by the President-elect, Carl E. Richards, M.D. of Sanford, at the request of the President, Wilson H. McWethy, M.D. (who is ill).

### Amy W. Pinkham Fund Committee

Norman H. Nickerson, M.D., Greenville — Chairman  
Virginia C. Hamilton, M.D., 900 Washington St., Bath  
Albert M. Carde, M.D., 33 Elm St., Milo  
Thomas A. Foster, M.D., 131 State St., Portland  
Ella Langer, M.D., State House, Augusta  
Forrest B. Ames, M.D., 255 Hammond St., Bangor

### Arthritis Committee

Philip P. Thompson, Jr., M.D., 704 Congress St., Portland — Chairman  
Joseph A. Marshall, M.D., 177 Main St., Waterville  
Robert O. Kellogg, M.D., 316 State St., Bangor  
Charles R. Glassmire, M.D., 58 Deering St., Portland

### Diabetes Committee

Elton R. Blaisdell, M.D., 12 Deering St., Portland — Chairman  
John S. Houlihan, M.D., 209 State St., Bangor  
Paul J. LaFlamme, M.D., 106 Russell St., Lewiston  
Harold G. Sears, M.D., Second Ave., Woodland  
Melvin Bacon, M.D., 122 Main St., Sanford

### Committee On Disaster Medical Care

Charles W. Steele, M.D., 472 Main St., Lewiston — Chairman  
Harry Butler, M.D., 77 Broadway, Bangor — Deputy Chairman

#### *District Members*

1st — Ralph A. Getchell, M.D., 690 Congress St., Portland  
2nd — Ralph A. Goodwin, Sr., M.D., 56 Denison St., Auburn  
3rd — Edward K. Morse, M.D., 22 White St., Rockland  
4th — Allan J. Stinchfield, M.D., 16 E. Chestnut St., Augusta  
5th — James H. Crowe, M.D., 121 Main St., Ellsworth  
6th — Richard C. Wadsworth, M.D., 489 State St., Bangor

#### *Members-at-Large*

Gilbert Clapperton, M.D., 300 Main St., Lewiston  
Clark F. Miller, M.D., 46 Madison St., Auburn  
Clyde I. Swett, M.D., 18 Sherman St., Island Falls  
Dean H. Fisher, M.D., State House, Augusta  
Frederick T. Hill, M.D., Thayer Hospital, Waterville  
Louis C. Lesieur, M.D., 66 Beach St., Saco  
Clifford W. Gates, M.D., Flaggy Meadow Rd., Gorham

#### *Blood Transfusion Committee Members*

Charles F. Branch, M.D., Central Maine General Hospital, Lewiston  
Franklin F. Ferguson, M.D., 22 Bramhall St., Portland  
Nelson P. Blackburn, M.D., 489 State St., Bangor

### Committee On Alcoholism

Gilmore W. Soule, M.D., 22 White St., Rockland — Chairman  
Paul A. Jones, M.D., Union

### Committee On Industrial Health

Eugene P. Wolfahrt, M.D., 338 Main St., Saco — Chairman  
Albert P. Royal, Jr., M.D., 82 Maine Ave., Rumford  
Edwin W. Harlow, M.D., 177 Main St., Waterville  
William A. Monkhouse, M.D., 131 State St., Portland  
Norman E. Dyhrberg, M.D., 323 Main St., Cumberland Mills

### Committee On Conservation Of Vision

Dexter J. Clough, 2nd, M.D., 224 State St., Bangor — Chairman  
Howard F. Hill, M.D., 33 College Ave., Waterville  
Paul Maier, M.D., 723 Congress St., Portland  
Paul E. Floyd, M.D., 2 Middle St., Farmington  
Otis B. Tibbetts, M.D., 181 Gamage Ave., Auburn  
Ralph A. Goodwin, Jr., M.D., 33 Court St., Auburn

### School Health Committee

Norman E. Dyhrberg, M.D., 323 Main St., Cumberland Mills — Chairman  
Margaret S. Smith, M.D., Box 967, Presque Isle  
Marion A. K. Moulton, M.D., West Newfield

### Committee On Hospital Infections

George F. Sager, M.D., 18 Bramhall St., Portland — Chairman  
Brinton T. Darlington, M.D., Westwood Rd., Augusta  
Charles D. McEvoy, Jr., M.D., 316 State St., Bangor

#### *Representing County Medical Societies*

Charles F. Branch, M.D., Central Maine General Hospital, Lewiston — (Androscoggin)  
Raymond G. Giberson, M.D., 555 Main St., Presque Isle (Aroostook)  
Morrill Shapiro, M.D., 29 Deering St., Portland (Cumberland)  
Wallace H. Duffy, M.D., 100 Main St., Farmington (Franklin)  
Llewellyn W. Cooper, M.D., 194 Main St., Bar Harbor (Hancock)  
Brinton T. Darlington, M.D., Westwood Rd., Augusta (Kennebec)  
John A. Root, M.D., 22 White St., Rockland (Knox)  
Mary J. Tracy, M.D., Bristol Rd., Damariscotta (Lincoln-Sagadahoc)  
Albert P. Royal, Jr., M.D., 82 Maine Ave., Rumford (Oxford)  
Charles D. McEvoy, Jr., M.D., 316 State St., Bangor (Penobscot)  
Francis W. Bradbury, M.D., 16 E. Main St., Dover-Foxcroft (Piscataquis)  
H. Carl Anrein, M.D., 29 Weston Ave., Madison (Somerset)  
George L. Temple, M.D., Fahey St., Belfast (Waldo)  
George N. Nackley, M.D., 1 School St., Machias (Washington)  
Maurice Ross, M.D., 372 Main St., Saco (York)

#### *State of Maine*

Alta Ashley, M.D., District III Health Office, Augusta

### Committee On Mental Health

Guy N. Turcotte, M.D., 38 Deering St., Portland — Chairman  
Francis H. Sleeper, M.D., Box 724, State Hospital, Augusta  
Frank S. Broggi, M.D., 18 Neal St., Portland  
Jerome W. Bergmann, M.D., 255 Western Promenade, Portland  
Harold A. Pooler, M.D., State Hospital, Bangor

### Maine Committee — American Medical Education Foundation

Robert W. Agan, M.D., 144 State St., Portland — Chairman  
Hays G. Bowne, M.D., 9A Main St., Farmington  
Charles R. Glassmire, M.D., 58 Deering St., Portland

### Veterans Affairs Committee

William C. Burrage, M.D., 57 Deering St., Portland — Chairman  
Robert L. Ohler, M.D., Veterans Administration, Togus  
Lorrimer M. Schmidt, M.D., Veterans Administration, Togus

### Joint Committee On Nursing & Medical Problems

Paul S. Hill, Jr., M.D., 323 Main St., Saco — Chairman  
Eugene E. O'Donnell, M.D., 32 Deering St., Portland  
Philip P. Thompson, Jr., M.D., 704 Congress St., Portland  
George O. Chase, M.D., 144 State St., Portland

### Committee On Maternal & Child Welfare

George W. Hallet, Jr., M.D., 131 State St., Portland — Chairman  
Alice A. S. Whittier, M.D., 143 Neal St., Portland  
William M. Shubert, M.D., 317 State St., Bangor  
Philip B. Chase, M.D., 36 Main St., Farmington  
Ella Langer, M.D., State House, Augusta  
Maurice Ross, M.D., 372 Main St., Saco

### Committee On Aging

George J. Robertson, M.D., 33 College Ave., Waterville — Chairman  
Charles A. Hannigan, M.D., 85 Goff St., Auburn  
Vaughn R. Sturtevant, M.D., 33 College Ave., Waterville  
Eustache N. Giguere, M.D., 90 Webster St., Lewiston  
Robert O. Kellogg, M.D., 316 State St., Bangor  
Brinton T. Darlington, M.D., Westwood Rd., Augusta  
Leon R. Jellerson, M.D., 34 Winter St., Sanford  
Harold N. Willard, M.D., Thayer Hospital, Waterville

### \*Investment Committee

Paul S. Hill, Jr., M.D., 323 Main St., Saco — Chairman  
Adolphe J. Gingras, M.D., 99 Water St., Augusta  
Asa C. Adams, M.D., 68 Main St., Orono

\*Appointed by the Council of the M.M.A.

## ACROSS THE DESK — *Continued from page 341*

5-fluororacil and 5-fluorodeoxyuridine. Other reports shed doubt on their effectiveness.

Physicians having patients whom they wish to be admitted for these studies should communicate with Dr. Clyde O. Brindley or Dr. Paul P. Carbone, National Cancer Institute, Bethesda 14, Maryland. Telephone: Oliver 6-4000, extension 4251.

### Kefauver Hearings Opened September 7 On Antibiotics

September 7 was set as the opening date for resumption of the Senate inquiry into manufacturers' drug pricing and trade practices. The latest phase will take

up antibiotics. Previous hearings dealt with steroid hormones, tranquilizers and oral antidiabetic drugs, in that order. Virtually assured of another 6-year term as a result of his recent primary victory, Chairman Estes Kefauver (D., Tenn.) of the Antitrust and Monopoly Subcommittee may be expected to fling his profiteering charges with greater abandon than ever. As a starter, he said:

"Antibiotics, with an annual sales volume at the manufacturers' level of over \$400 million a year, is the largest selling product group of all ethical drugs. Most forms of antibiotics, with a few notable exceptions such as penicillin, have for years been sold to the druggist at a price of over 30 cents a pill and to the consumer for around 50 cents a pill (sic)."





DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

### Division Of Services For The Blind

DEAN P. MORRISON\*

Although the Division of Services for the Blind which was established within the Department in 1942 has several programs, the one of the most interest to the medical profession is probably that of medical services for eye conditions. This is defined as "eye care to prevent blindness and to restore vision." It is available for those individuals who do not have adequate funds to pay for private care. A determination is made by a member of a State-wide panel of ophthalmologists and if the individual in question consents and is accepted by the Division (on the basis of medical-social information), he may be eligible for surgery, medication or whatever treatment is indicated by the ophthalmologists.

The Division\*\* has a current projected case load (at the end of the present fiscal year) of 5,000 persons in the medical eye care program. This is contrasted with the total of 1,941 persons in the same program as of June 30, 1955. Hospitalization for patients under the Services for the Blind program totaled 572 days for 88 patients at a total annual cost of \$7,439.70 for the last fiscal year for which such statistics are available, namely 1958-59. From July 1 of last year to April 17, 1960, there were 438 hospital days for 74 persons at a cost for that period of \$5,996.30. A small number of cases are hospitalized out of state, but by far the larger number receive service in Maine hospitals.

The attention of the medical profession is specifically directed to one problem in the prevention of blindness and vocational rehabilitation. Statistics indicate that four million Americans, including 109,000 children, are suffering from some degree of amblyopia which

could have been prevented. Some of the children will suffer loss of their only good eye through injury or disease, or this loss may come after one has a family and result in loss of job and economic dependence in addition to blindness. Few people ever prepare themselves for blindness.

Why is it so difficult to discover children's eye problems? Since a good eye covers up for its faulty fellow and the presence of side vision in the poor eye keeps the child from bumping into things, it is assumed that both eyes are functioning well. As each eye receives its own impression or image, and as the sensation of "seeing double" is intolerable, nature has provided a mechanism by which the mind blends these two images into one. This results in binocular vision and is the principle on which 3-D pictures are based.

If something upsets the delicate balance and close cooperation between the two eyes, there is the danger that one eye may do all the work of seeing while the central image of the other eye is ignored. The most common cause of this condition is faulty alignment of the eyes; that is, one eye is turned inward or outward with respect to the other. Since the eyes are looking in two different directions, the child can escape the annoyance of seeing double only by mentally shutting out the image of one eye. Unless treatment is started at once, this eye will never learn clear vision. Treatment can be started as early as the first year of life, or as soon as the need for it is discovered. Patching must be constant and complete until vision has been brought to a near normal level in the poorer eye; only then is it permissible to omit the patch for a part of each day. Supervision by the eye specialist is essential, but the responsibility for carrying out the program rests with the parents.

The first few days are the most difficult; as soon as clear vision starts to develop in the faulty eye, the patch is increasingly well-tolerated. The older the child, the slower is the response to treatment and an eye that has not developed clear vision before seven is

*Continued on Page 348*

\*Director, Division of Services for the Blind, Department of Health and Welfare, Augusta, Maine.

\*\*Not to be confused with Aid for the Blind, one of four categorical programs in the Division of Public Assistance which provides financial aid in the form of money grants for eligible needy blind persons. Although these two divisions within the Department differ in their major objectives, there is continuing cooperation between staff members working on cases in which medical services or vocational rehabilitation are indicated.

In Acute  
Illness...

**NILEVAR®**

Can Speed  
Recovery

"Commonly, negative nitrogen balance<sup>1</sup> occurs during acute febrile illnesses and following traumatic events and surgical procedures." As much as 300 to 400 Gm. of nitrogen<sup>2</sup> may be destroyed daily in severe infections. Convalescence<sup>1</sup> is delayed when negative nitrogen balance is large and persistent.

*NILEVAR Builds Protein, Speeds Convalescence to Complete Recovery*<sup>3-6</sup> "... we were impressed<sup>3</sup> with the efficacy of Nilevar as an anabolic agent. All of the patients reported feeling much more vigorous and experiencing an increase in appetite. ..."

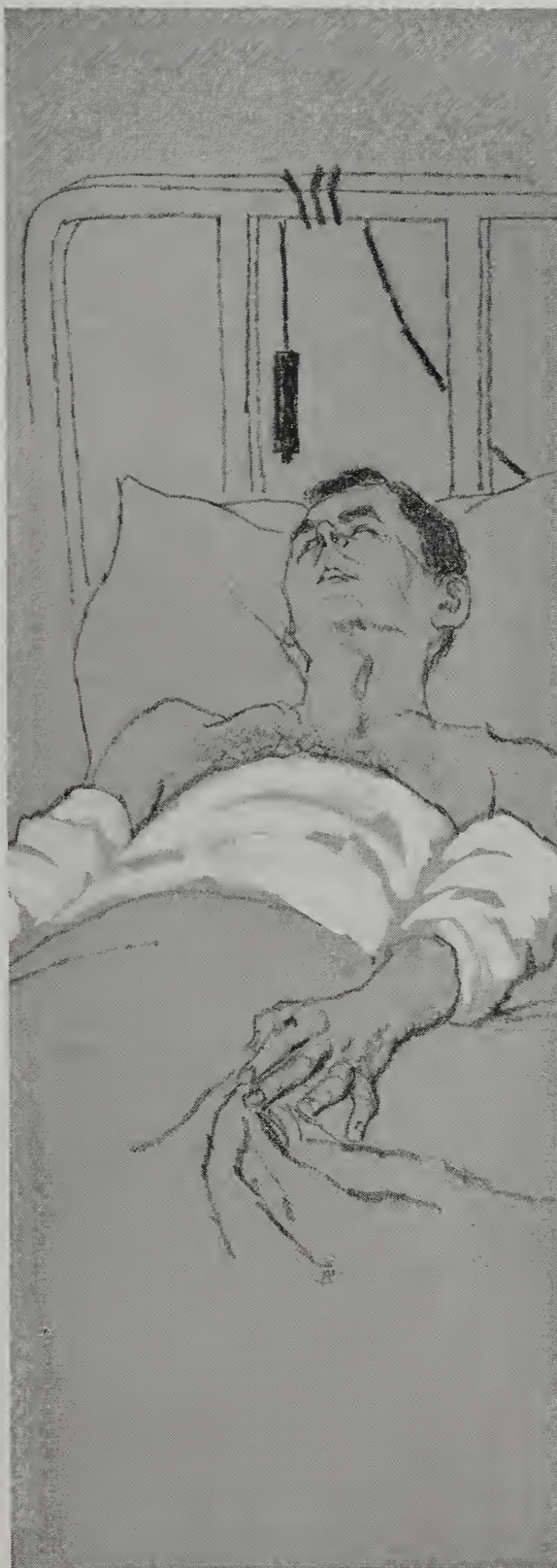
The actions of Nilevar<sup>4</sup> in reversing a negative nitrogen balance—and therefore a negative protein balance—improving the appetite and increasing the sense of well-being can be expected to shorten the illness and the convalescence of these patients.

An initial daily dosage of 30 mg. of Nilevar (brand of norethandrolone) is suggested. After one to two weeks, this dosage may be reduced to 10 or 20 mg. daily in accordance with the response of the patient. Continuous courses of therapy should not exceed three months, but may be repeated after rest periods of one month. Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil with benzyl alcohol.

1. Eisen, H. N., and Tabachnick, M.: Protein Metabolism, *M. Clin. North America* 39:863 (May) 1955. 2. Jamison, R. M.: General Nutritive Deficiency, *Virginia M. Month.* 83:67 (Feb.) 1956. 3. Goldfarb, A. F.; Napp, E. E.; Stone, M. L.; Zuckerman, M. B., and Simon, J.: The Anabolic Effects of Norethandrolone, a 19-Nortestosterone Derivative, *Obst. & Gynec.* 11:454 (April) 1958. 4. Batson, R.: Investigator's Report, Feb. 11, 1956. 5. Weston, R. E.; Isaacs, M. C.; Rosenblum, R.; Gibbons, D. M., and Grossman, J.: Metabolic Effects of an Anabolic Steroid, 17-Alpha-Ethyl-17-Hydroxy-Norandrostenone, in Human Subjects, *J. Clin. Invest.* 35:744 (June) 1956. 6. Brown, C. H.: The Treatment of Acute and Chronic Ulcerative Colitis, *Am. Pract. & Digest Treat.* 9:405 (March) 1958.

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*Research in the Service of Medicine*





unlikely to do so thereafter. Failure to achieve any improvement at all may be due to eye disease, advanced age of the child, improper glasses, or half-hearted inadequate attempts at patching.

Children who are obviously cross-eyed or wall-eyed are usually brought under treatment at an early age. In many others, however, the deviation or cast may be so slight as to escape detection by all but a trained examiner.

Another group are those whose eyes are straight but who have an optical imperfection of one eye. Since the distorted picture received by this eye cannot be reconciled with the clear image of the normal eye, the natural tendency is to shut out the blurred image entirely. In many cases, the prescription of suitable glasses at an early age is sufficient to insure normal development of both eyes instead of only one.

The general practitioner and the pediatrician can test vision in children too young to read letters by means of picture charts. The essential thing is that each eye must be tested separately. Unequal vision in a child's eye is a red flag of danger. Vision testing should be done as early as possible and at intervals until the family physician and the parents are satisfied that the child has equally good vision in both eyes.

Vocational rehabilitation of legally-blind persons and vocational rehabilitation of the visually handicapped are responsibilities of this division.

A legally-blind person is one who has visual acuity of 20/200 or less in the better eye with correcting glasses or with a field defect in which the peripheral field has contracted to such an extent that the widest diameter of the visual field subtends to an angular distance of no greater than 20°. A visually handicapped person is one whose vision in the better eye with correcting glasses is 20/70 or less or is greater than 20/200.

The State-Federal program of vocational rehabilitation is set up by law to provide persons of employable age (age 15 or over) who are legally blind or who have a visual impairment which seriously threatens their job performance or is a severe handicap to their obtaining job skills. Complete information on this program may be secured by writing the Division of Services for the Blind, State House, Augusta, Maine.

Other services offered by the Division include a program for pre-school blind children. This provides counseling and guidance services to both children and parents. Assistance is given to parents with their

problems of medical eye care and counseling provided in the areas of growth and development of their blind children. Psychological and psychiatric study is provided and educational plans are made for the child according to his individual need and the wishes of the parents. Education for the blind funds can be used to provide nursery school experience in sighted groups to help evaluate the child's abilities to function in a group situation. As of April 1, 1960, there were 32 children in this program as compared to 43 for the entire year of 1955.

Four types of educational plans are available for the education of blind children based on the belief that each blind child should receive an education at least equal to that which he would receive had he not been blind. These are: (1) education in a public or private residential school for the blind; (2) education with the sighted in public or private school with resources provided such as large print books and other special sight saving equipment and materials; (3) education with the sighted in public or private schools with itinerant teaching services available as needed and (4) education at home with a special instructional program to meet the needs of the individual child. As of April 10, 1960, there were 79 children in this program as compared to 60 for the entire year of 1959.

The Division provides home teaching services to the extent that properly trained personnel is available. At present there is one full-time home teacher and one part-time. The home teacher's function is to teach the blind individual how to live with his blindness, that is how to do the necessary activities of daily living in the home and elsewhere. Braille instruction in reading, writing and typing are some of the tools used to accomplish this goal. The home teacher provides intensive services for vocational rehabilitation clients in their preparation for productive employment.

Federally-owned phonographs called "talking book machines" are distributed and maintained in good repair as another service to the legally blind at no charge to the reader. This serves as the library for blind persons in the State. Currently, there are 380 persons taking advantage of this service.

In conclusion, this Division is the Federal licensing agency for vending stands located in Federal buildings. Operators are trained and assisted in the operation of these vending stands as a means to become self-supporting.

# Announcements

**State of Maine Board of Registration of Medicine**  
**Secretary — Daniel F. Hanley, M.D.,**  
**Brunswick, Maine**

**Physicians Licensed to Practice Medicine and**  
**Surgery in the State of Maine**  
**July 12, 1960**

## THROUGH EXAMINATION

- W. Anthony Allison, M.D., 4624 Samson Street, Philadelphia, Pennsylvania
- Vladimirs Balodis, M.D., Northern State Hospital, Sedro-Woolley, Washington
- Traian Botosan, M.D., 416 West 118th Street, New York 27, New York, N. Y.
- Ricardo Ceballos, MD., 1919 7th Avenue, South, Birmingham, Alabama
- Farag Y. Chamuel, M.D., 330 Brookline Avenue, Boston, Massachusetts
- Vincent A. Cipolaro, M.D., 2340 Quimby Avenue, New York, N. Y.
- Franciszka Dworecka, M.D., 720 West 173 Street - Apt. 22, New York, N. Y.
- William R. Hart, M.D., 511 Nott Street, Schenectady, New York
- Kurt Hasenhuttl, M.D., 81 Longfellow Avenue, Newark, New Jersey
- Bao-shan Jing, M.D., The University of Texas, M.D. Anderson Hospital and Tumor Institute, Houston 25, Texas
- Peter C. Karvounis, M.D., University Hospital, Ann Arbor, Michigan
- Egbert H. Mueller, M.D., McLean Hospital, Belmont, Massachusetts
- Roy Nagle, M.D., 1901 Walnut Street, Philadelphia, Pennsylvania
- Gerhard Spieker, M.D., Northville State Hospital, Northville, Michigan.

## THROUGH RECIPROCITY

- H. Arto Abrahamian, M.D., 470 Prospect Street, New Haven, Connecticut
- Jiri J. Bozdech, M.D., E. Circle Drive, Harlan, Kentucky
- Jen Ti Chen, M.D., 3731 Parkfield Road, Pikesville, Maryland
- Isham M. Cox, Jr., M.D., 163 Court Street, Portsmouth, New Hampshire
- Tibor Doby, M.D., 129 Mansfield Street, New Haven, Connecticut
- Robert B. Dugan, M.D., 138 West Ninth Street, Erie, Pennsylvania
- Lane Giddings, M.D., 2014 Washington Street, Newton Lower Falls, Massachusetts
- Hector P. Gutierrez, M.D., Womack Army Hospital, Fort Bragg, North Carolina

John W. McAllister, M.D., 29 Washington Street, Eastport, Maine

Norman U. Messiter, M.D., Halifax District Hospital, Daytona Beach, Florida

Tassadduk H. Moghul, M.D., 91 Mary Ann Road, Manchester, New Hampshire

Thomas F. Reilly, M.D., 77 Maple Street, Springfield, Massachusetts

Rosario A. Scandura, M.D., 119 Monticello Avenue, Dorchester, Massachusetts

Gerhard W. F. Schroeder, M.D., P. O. Box 15, Harrisburg, Ohio

Heinz J. Strasser, M.D., Stanardsville, Virginia

John M. Trainor, M.D., University Hospital, The Ohio State University, Columbus, Ohio

## Membership Drive, New England Diabetes Association

### *The Purpose*

- "(1) To promote the free exchange of knowledge concerning treatment and research in diabetes mellitus and related fields.
- (2) To improve standards for treatment of the diabetic.
- (3) To aid diabetics in attaining a better understanding of their disease."

### *What Does Membership in The New England Diabetes Association Provide?*

- "(1) ASSOCIATION with other practicing physicians and research workers interested in the field of diabetes. Along with an opportunity to exchange ideas and discuss problems and to participate in affairs of the group, members may confer with outstanding scientists invited to meet with the Association.
- (2) SCIENTIFIC MEETINGS held four times yearly in Boston and in other New England cities.
- (3) ASSISTANCE with individual and community problems affecting the diabetic by means of advice, materials for public information, and to a limited extent, funds to aid detection and educational programs.
- (4) Membership includes subscription to THE WORD, published three times yearly. THE WORD gives up-to-date information regarding advances in diabetes and news concerning both the New England and American Diabetes Associations.
- (5) NEW MEMBERS are sent the American Diabetes Association DIABETES GUIDE-BOOK FOR THE PHYSICIAN."

### *Who May Be A Member?*

Active membership is offered to:

- "(1) Duly licensed physicians interested in diabetes. (Membership is not limited to specialists in the field).
- (2) Applications of those in certain professional fields such as research, nursing and dietetics are considered.



(3) Interns, residents or fellows in full-time training programs are eligible for membership without the payment of dues and may continue in this status until their training is completed, when they become eligible for regular (active) membership.

(4) Yearly membership dues: for active members — \$3.00."

Please mail application to: Dr. C. Burns Roehrig, Secretary, New England Diabetes Association, 1180 Beacon Street, Brookline 46, Mass.

ELTON R. BLAISDELL, M.D.  
State Chairman, Membership Committee  
New England Diabetes Association

Edgar Mayer, Clinical Professor of Medicine, New York University Postgraduate Medical Center; Dr. Alfred S. Dooneief, Lecturer in Medicine, Columbia University College of Physicians and Surgeons; and Dr. Emil A. Naclerio, Chief, Thoracic Surgical Services, Harlem and Columbus Hospitals, New York City. This course will take place at the Park Sheraton Hotel, New York City, November 14 through 18, 1960.

Tuition for each five-day course will be \$100 including round table luncheon discussions.

Additional information may be obtained by writing to: Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

### Postgraduate Courses On Diseases Of The Chest

Two postgraduate courses on diseases of the chest have been announced by Dr. J. Winthrop Peabody, Sr., Washington, D.C., Chairman of the Council on Postgraduate Medical Education of the American College of Chest Physicians.

The first of these, the 15th annual course, Clinical Cardiopulmonary Physiology, has been arranged under the co-chairmanship of Dr. Albert H. Andrews, Associate Clinical Professor of Bronchoesophagology, University of Illinois College of Medicine, and Dr. Edwin R. Levine, Assistant Professor of Clinical Medicine, Chicago Medical School. This course will be held at the Sheraton Towers Hotel, Chicago, October 24 through 28, 1960.

The second, the 12th annual course, Recent Advances In The Diagnosis And Treatment Of Diseases Of The Heart And Lungs, was arranged under the co-chairmanship of Dr.

### Twenty-Fifth Annual Convention Of The American College Of Gastroenterology

The Twenty-fifth Annual Convention of the American College of Gastroenterology will be held at the Bellevue-Stratford Hotel in Philadelphia, Pennsylvania October 24 through 26, 1960.

The program will consist of individual papers, a clinical pathological conference and motion picture films.

There will be scientific exhibits on gastroenterology and allied subjects, as well as commercial and technical exhibits.

Business meetings will be held on Sunday, 23 October, at which time new officers will be elected. There will also be a Convocation Ceremony that evening for the presentation of certificates to newly elected and advanced Associate Fellows and Fellows, and Honorary Fellowships will be given to Dr. Ralph E. Snyder, President and Dean of New York Medical College, Metropolitan Hospital Center and Dr. Edward C.

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Immediately following the Convention on Thursday, Friday and Saturday, 27, 28, 29 October 1960, the College will again give its Annual Course in Postgraduate Gastroenterology. The faculty for this Course has been selected from the medical schools in Philadelphia and the Course is open to those holding the degree of Doctor of Medicine.

For copies of the program and additional information concerning the Postgraduate Course, please write to the American College of Gastroenterology, 33 West 60th Street, New York 23, New York.

### Fifth Medical Seminar Cruise Sponsored By Duke University School of Medicine

The Duke University Medical School is sponsoring a postgraduate Medical Seminar Cruise to the West Indies this fall aboard the new KUNGSHOLM, Sweden's largest transatlantic liner and cruise ship. The luxury ship, which will sail from New York City on November 9, will visit the Virgin Islands and San Juan, Puerto Rico, and will return to New York on November 18.

Shipboard lectures on various subjects in medicine, pediatrics and surgery will be given by the following members of the Duke Medical School faculty: Dr. Edwin P. Alyea, Professor of Urology; Dr. Doris Ahlee Howell, Associate Professor of Pediatrics and Pediatric Hematologist; Dr. Elbert L. Persons, Professor of Medicine; Dr. William M. Shingleton, Professor of Surgery; and Dr. William M. Nicholson, Professor of Medicine and Assistant Dean for Post Graduate Medical Education.

The instructional program will provide twenty hours credit toward postgraduate requirements of the American Academy of General Practice. While designed primarily for the generalist, the program should be of value and interest to the specialist. Informal panel discussions, clinicopathological conferences and formal presentations will be given by members of the faculty.

The rates are \$230 and up which will include accommodations, meals and ocean transportation. For information relative to itinerary and reservations write the Allen Travel Service, Inc., 565 Fifth Avenue, New York 17, New York.

For further medical details, please address Director of Postgraduate Education, Duke University School of Medicine, Durham, North Carolina.

For information as to the deductibility for income tax purposes, of the expenses of professional postgraduate education, see Journal of American Medical Association of July 28, 1956, page 1260.

### Department Of Health And Welfare Division Of Maternal And Child Health Including Services For Crippled Children

#### ORTHOPEDIC CLINICS

- Portland — Maine Medical Center  
9:00 a.m.: Oct. 10, Nov. 14, Dec. 12
- Lewiston — Central Maine General Hospital  
9:00 a.m.: Oct. 21, Nov. 18, Dec. 16
- Rumford — Community Hospital  
1:30 p.m.: Dec. 21
- Waterville — Thayer Hospital  
1:30 p.m.: Oct. 27
- Rockland — Knox County Hospital  
1:30 p.m.; Nov. 17
- Machias — Washington County Normal School  
1:30 p.m.; Oct. 12
- Presque Isle — Northern Maine Sanatorium  
9:00 a.m. and 12:30 p.m.: Nov. 9
- Houlton — Aroostook General Hospital  
9:00 a.m.: Nov. 8
- Bangor — Eastern Maine General Hospital  
1:00 p.m.: Nov. 17  
(Several will be two-session clinics)
- Augusta — Augusta General Hospital  
1:00 p.m.: Dec. 22

#### CARDIAC CLINICS

- Portland — Maine Medical Center  
9:00 a.m.: Every Friday (Holidays Excepted)
- Bangor — Eastern Maine General Hospital  
9:00 a.m.: Oct. 14, 28, Nov. 4, 18, Dec. 9, 23

#### CLEFT PALATE EVALUATION CLINICS

- Portland — Maine Medical Center  
10:00 a.m.: Nov. 8

#### PEDIATRIC CLINICS

- Bangor — Eastern Maine General Hospital  
1:30 p.m.: Oct. 28, Nov. 18, Dec. 23
- Fort Kent — Peoples Benevolent Hospital  
10:00 a.m.: Nov. 16
- Waterville — Thayer Hospital  
1:30 p.m.: Oct. 4, Nov. 1, Dec. 6

#### CLINICS FOR MENTALLY RETARDED PRE-SCHOOL CHILDREN

- Waterville — Thayer Hospital  
9:00 a.m.: Oct. 5, 19, Nov. 2, 16, 30, Dec. 7, 21

#### ADOLESCENT CLINICS

- Portland — Maine Medical Center  
1:00 p.m.: Oct. 26, Nov. 23, Dec. 28

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### Fellowships For Postdoctoral Study Offered By The National Foundation

Postdoctoral fellowships are offered by The National Foundation to candidates for training in research, orthopedics, preventive medicine, arthritis and related diseases, and rehabilitation. The closing date for submitting applications to be reviewed in February is November 1st.

Financial support varies according to his previous education, his professional experience, marital status, and number of dependents, but the minimum is \$4,500 a year with \$540 allowed annually for each dependent. Annual increases of \$480 are ordinarily granted. For a full academic program, complete tuition and fees are paid; for other programs, a sum not exceeding \$1,250 a year is made available to the institution. Transportation not exceeding \$600 will be paid for research and orthopedic fellows if foreign study is approved.

All awards are made upon recommendation of the appropriate National Foundation Fellowship Committee. U. S. citizenship is required, but those who have filed a petition for naturalization will be considered.

Fellowships are ordinarily awarded for a minimum of one year and may be renewed upon approval of the Committee. For further information write to the National Foundation, 800 Second Avenue, New York 17, New York.

### Fourteenth Annual Postgraduate Assembly

The 14th Annual Postgraduate Assembly, sponsored by the San Diego County General Hospital will be held on Wednesday, November 2, and Thursday, November 3, 1960, at the

County Hospital. Guest speakers will be: Chest Section, J. Maxwell Chamberlain, M.D.; Medicine, E. Gray Dimond, M.D.; Obstetrics-Gynecology, John C. Ullery, M.D.; Orthopedics, Andrew Bassett, M.D.; Pediatrics, Robert Ward, M.D.; Surgery, Harris B. Shumacker, Jr., M.D. and Urology, Eugene R. Poutasse, M.D.

The Registrar is William Tisdale, M.D., c/o San Diego County General Hospital, San Diego 3, California.

### American Board Of Obstetrics And Gynecology

The next scheduled examination, (Part 1), written, will be held in various cities of the United States, Canada, and military centers outside the Continental United States, on Friday, January 13, 1961.

Candidates submitting applications in 1960 for the 1961 examinations are not required to submit Case Reports as previously required to complete the Part 1 Examinations of this Board. In lieu of this requirement, new candidates are required to keep in their files a duplicate list of hospital admissions as submitted with their application, for submittal at the annual meeting in Chicago should they become eligible to take the Part 11 (oral) Examinations.

Reopened candidates will be required to submit Case Reports for review thirty days after notification of eligibility. Scheduled Part 1 and candidates resubmitting case reports are required to submit Case Reports prior to August 1st each year.

Current Bulletins may be obtained by writing to Robert L. Faulkner, M.D., Executive Secretary and Treasurer, 2105 Adelbert Road, Cleveland 6, Ohio.

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# The Journal of the Maine Medical Association

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Number 10

## The Problem Of Financing Hospital Care For Indigent And Geriatric Patients

FREDERICK T. HILL, M.D

One of the greatest problems facing Medicine and Hospitals today is that of providing care for the indigent and the geriatric patient. Less directly and generally unrecognized, it is likewise a problem for the general public. For ultimately the cost of any program providing care comes out of the same pocket, by direct payment, through insurance plans, or by taxation. While at first glance, this would seem to be a particular concern of the hospitals which are directly forced to finance this care; we, as physicians, realize our dependence upon our hospitals and the importance of their continued solvency. We need our hospitals, just as they need physicians.

Today the solvency of our hospitals is threatened by the financial burden imposed by caring for indigent and geriatric patients. With hospital costs, actual day-to-day costs, ranging up to \$30. or more a day, and a predicted even higher cost in the next few years, and with reimbursement from Public funds ranging from less than \$7. a day for State Aid patients, to \$10. or \$12. a day for certain categories, such as Aid to the Blind, Aid to Dependent Children, Old Age Assistance, Aid to Disabled; the problem indeed becomes a serious one.

The problem is further complicated by the fact that these patients tend to remain longer in the hospital, thus adding to the loss. In a study of a year's experience at the Thayer Hospital, we found that the average stay of the private patient was 5.7 days, while that of the indigent or service patient was 13.1. There are several reasons for this. Many of these were serious cases;

distance from home was a factor in some. In others, home conditions were unsuitable or their families did not want to assume the responsibilities of caring for them. But whatever the reason it increased the cost to the hospital. I am sure that all hospitals have had similar experiences.

In the year 1958-1959, 63 Maine Hospitals provided 197,116 days care for indigent patients with a resulting loss to the hospitals of \$3,085,393. And this is actual loss for providing food, heat, beds, nursing, and salaries paid to the employees required to provide this care. The professional services of physicians were all gratuitously rendered.

Unless hospitals have sufficient income from endowments or from voluntary contributions, they can do only one of three things to meet their loss; refuse to take these cases, increase charges to private patients sufficiently to cover the deficit, or go bankrupt and close their doors. Few, if any of our hospitals have sufficient income from endowment funds or receive sufficient contributions from voluntary sources or foundations to meet this cost. Our economy has changed in these past few decades. Endowment income, if there be such, has diminished. Foundations no longer have funds available for meeting current losses. And private fortunes have shrunk and voluntary contributions amount to little today.

To refuse care for the medically indigent or geriatric patient should be unthinkable. Hospitals have a moral, though not a legal obligation, to care for these people. Needed hospital care must not depend upon a means



test. And "as we have added Years to Life, so must we now strive to add Life to Years."

Consequently charges to private patients have had to be increased to make up this deficit. This amounts to a special tax, levied upon persons already handicapped by illness and prevented from gainful employment by that illness. Rufus Rorem has suggested that this additional amount be ascertained by actuarial studies and be noted on the private patient's bill as a "Surcharge for Charity." He said if he was making such a contribution, albeit unwillingly, he'd like to know it, so he could use it as an income tax deduction. This may seem a bit facetious but if the Public generally realized the actual situation in all probability it would demand a change.

This problem has been solved in many states by means of widespread educational campaigns, acquainting the Public of these facts. Connecticut is a shining example. Their hospitals are reimbursed for the actual cost of caring for the indigent. Maryland, Minnesota and Colorado have done likewise. In these states the hospitals have been enabled to provide the best of care to all, and to remain solvent, without imposing added charges upon private patients.

This problem is particularly acute in Maine. In 1956 under a grant from the Rockefeller Foundation and the Bingham Associates, an exhaustive survey was conducted by Dr. Wilson Smillie, Professor-Emeritus of

Preventive Medicine, Cornell University School of Medicine, on "The Unmet Medical Needs of Maine." Dr. Smillie found that the greatest problem was concerned with the care of the Aged and the patient with chronic disease. He also found that the largest segments of our population were either under the age of 15 or over 65, neither group, with rare exceptions, being productive or self-supporting. And he further stated that by 1990 this would be the pattern for the entire Country.

With this before us, it would seem wise to demand a plan for financing hospital care for these unfortunates, providing service of high standards to be paid for on an equitable basis, shared by the general taxpaying public, not by those already handicapped by illness. This cannot be achieved by the hospitals alone. It can only be accomplished by demands of a General Public, aware of the present situation. If we physicians, both as an Association and better, as individuals, will bring this story to our patients, our friends, and especially to the women, for they are a potent force politically, we may hope for correction of this present inequitable situation. While it means some additional taxes, these will be met by the whole general public, not by patients already handicapped by illness, who then could look for some relief from necessarily high hospital costs.

Thayer Hospital, Waterville, Maine



# Restorative Medicine In Geriatrics

MICHAEL M. DACSO, M.D.\*

Recent discoveries in clinical medicine and the wider application of preventive medical and public health measures, as well as vastly improved general social conditions have markedly prolonged the average life expectancy of the population. One of the most important impacts of this continuing trend is the disproportionate increase of the elderly segment of the population. While the total population has roughly doubled since 1900, the number of those 65 years and over has quadrupled, a trend which is expected to continue for some time. The blessings of longevity are not entirely unalloyed. By not succumbing to many of the previously lethal acute illnesses the individual is preserved to live to develop some of the chronic and degenerative diseases, many of which inevitably result in physical disability.

The increasing number of disabled people has led to the evolution of restorative medicine, or as it is more widely known, medical rehabilitation, from the larger family of clinical medicine. Owing to the fact that a considerable segment of the aging population suffers from some degree of chronic infirmity the need for restorative medicine in the care of the aged is being increasingly recognized. In addition to the functional improvement of the disabled patient restorative medicine is concerned about the prevention of disabilities in the chronically ill and often bedridden patient.

In practice preventive activities can be classified into two main groups.

*Primary prevention* is concerned with the elimination of all harmful influences from the patient's life which would lead to the *development* of a disease. In spite of the tremendous advances in clinical and preventive medicine primary preventive measures for most chronic disease are not available.

*Secondary prevention* refers to the elimination of all noxious factors which would lead to the *aggravation* of the already developed disease. This can be most effectively utilized in the case of many of the chronic disabling diseases commonly observed among aging patients.

Among the many secondary preventive measures the maintenance of physical activity as long as possible is one of the most important. The necessity for complete or partial bedrest in many diseases and its beneficial effects are well recognized. Reliable studies, however, prove that the injudicious prolongation of bedrest can

produce significant physiological and psychological changes which may adversely affect the patient to a greater extent than the original disease. Some of the more common preventable secondary complications are, disuse atrophy of the muscles and bone, contractures, incontinence, bedsores, mental confusion etc.

Stieglitz appropriately identified geriatrics as *anticipatory medicine*, indicating the great importance of plotting the expected course of a disease in its earliest stages and taking all possible steps to prevent the development of *unnecessary* complications. To translate this into clinical terms this means, for example, that at the same time the diagnosis of a cerebrovascular accident is made the entire clinical course must be prognosticated and proper therapeutic measures introduced to avoid such complications as severely crippling contractures, inability to perform the simple tasks of daily life, incontinence and many others. Similar considerations apply in the medical and surgical management of all long-term diseases affecting the aged.

In order to avoid frustrating experiences by the patient and his family it is important to know that restorative medicine does not cure the disabling disease but is aimed at restoration of lost function and prevention of avoidable crippling complications. The most successfully rehabilitated handicapped person will still remain handicapped to some degree, with the great difference that in spite of his physical limitations he will be able to perform the essential physical activities of daily life and to live more or less independently *within the limits of his disability*. Effective rehabilitation for the elderly frequently spells the difference between life-long vegetation and self-sufficient, independent living. This concept, in brief, epitomizes the tremendous contributions of rehabilitation to the clinical management of disabled old people.

The restoration of a disabled elderly patient has many indirect influences on his family and indeed on his community. The incapacity of the breadwinner destroys the structure of the family unit. The accumulation of dependent old people is a problem which if not adequately solved can adversely influence the structure of the entire community. If many affected family units, sometimes referred to as the pathological families, exist the entire life and organization of a community can be severely affected. In order to meet the demands created by the growing number of disabled elderly people in the community, it is essential that all practicing physicians familiarize themselves with some of the simpler principles and techniques of restorative medicine. This

*Continued on page 358*

\*Director, Associate Professor, Department of Physical Medicine & Rehabilitation, New York University Medical Center, Goldwater Memorial Hospital Service.



# Surgical Treatment Of Heart Disease\*

H. F. RHEINLANDER, M.D.\*\*

The surgical treatment of heart disease is one of the most rapidly advancing areas of medicine today. It is even difficult for one interested in the field to keep pace with the latest advances and techniques. It is also difficult to evaluate the sometimes over enthusiastic reporting of individuals who are making contributions to the subject. For these reasons a considerable amount of confusion exists concerning the indications for and results of surgical therapy. The questions of which lesions should be treated surgically, the appropriate time for surgery, the risk of the operation and the probable outcome are ones which we all must answer in any given instance before we can intelligently advise the patient with surgically treatable heart disease.

In general, cardiac surgery is elective surgery and the same criteria should apply as in any elective operation. First, does the patient have a lesion which requires treatment; second, is an operation available which can correct the defect; third, are the chances of a successful outcome good enough to justify the risk. If these questions can be answered in the affirmative, then there is no doubt that operation should be advised.

Patent ductus arteriosus is easily diagnosed in most patients by the typical continuous "machinery type" murmur. It is generally agreed that individuals with this anomaly have a decreased life expectancy and operation should be advised in every instance. The optimum age for surgical intervention is from three to eight years. Older patients present an increased risk because of the degenerative vascular changes which invariably occur and because pulmonary hypertension may develop with reversal of the shunt. In infants, heart failure resistant to medical therapy, may occur secondary to a patent ductus and urgent surgical therapy may be lifesaving. In the latter instance the typical murmur may be absent. The over-all risk of operation is from 1 to 3% and closure of the ductus results in a complete cure.

Coarctation of the aorta should be suspected in every child and young adult in whom hypertension is found. The diagnosis is easily made by comparing the blood pressure in the upper and lower extremities. In general, the presence of the lesion is an indication for operation because of the decreased life expectancy from heart failure, cerebral hemorrhage, rupture of the aorta

or bacterial endarteritis. The ideal age for operation is from 8 to 12 years. Older patients present an increased risk because of the degenerative vascular changes which occur. In infants this lesion can also cause intractable cardiac failure and resection and anastomosis may have to be done as a lifesaving measure. The mortality of the operation is from 5 to 10% and resection with adequate anastomosis results in a complete cure with alleviation of the hypertension which is usually the presenting complaint.

Isolated pulmonic stenosis may be valvular or infundibular, the latter being a muscular ridge obstructing the right ventricular outflow tract. The diagnosis should be suspected in a patient with a systolic murmur in the second or third left intercostal space with right ventricular hypertrophy and a decrease in the pulmonary vascular shadows. In the absence of symptoms operation is indicated if the right ventricular systolic pressure exceeds 70-75 mm./Hg. at the time of cardiac catheterization. An accurate diagnosis of the site of stenosis is not essential since an open approach through the pulmonary artery or the right ventricle using cardio-pulmonary bypass by means of a pump-oxygenator should be used in each instance. Results of the open operation are usually curative and the operative mortality should not exceed 5%.

Defects of the intra-atrial septum are among the commonest of congenital cardiac defects. They are associated with left to right shunts and an increased pulmonary blood flow. There is usually a systolic murmur in the second or third left interspace, a split second heart sound, right ventricular hypertrophy, a large right atrium and increased vascularity of the lung fields. Entrance of the pulmonary veins into the right side of the heart is a commonly seen associated anomaly. These patients develop right ventricular failure and pulmonary vascular obstruction from the increased right-sided flow which we have measured to be as high as 20 liters per minute. In the absence of symptoms a pulmonary blood flow two times the systemic blood flow is an indication for operation. The defects should be closed under direct vision using cardio-pulmonary bypass to ensure ample time for complete closure and repair of associated defects. With this technique our results have been excellent and the mortality of the operation should be less than 5%.

Ventricular septal defects are serious lesions which may cause death in early infancy. Children with this anomaly have dyspnea on exertion, fatigue and repeated respiratory infections. The diagnosis is suspected on the basis of the murmur (harsh systolic over

\*Presented at the Cardiac Symposium of the United States Air Force and Maine Heart Association, February, 1959, Loring AFB, Limestone, Maine.

\*\*Surgeon, Pratt Clinic, New England Center Hospital, Boston, Massachusetts. Assistant Professor of Surgery, Tufts University School of Medicine.

the left sternal border) with thrill, increased pulmonary vascularity and right or left or bi-ventricular hypertrophy. These shunts are from left to right and produce much the same physiological changes as do the atrial septal defects. Because of the high pressure involved the pulmonary vascular changes and pulmonary hypertension are apt to occur sooner and be more severe. Symptoms consist of failure to gain, tiredness, dyspnea on exertion and palpitation. Although a significant percentage of patients with this lesion will succumb during infancy, the greater majority will not develop their pulmonary hypertension until much later in life and can, therefore, avoid the increased hazards associated with early operation. However, once the diagnosis has been made the patient must be followed carefully and operation undertaken before severe pulmonary hypertension and irreversible pulmonary vascular changes have taken place. These defects should be closed under direct vision through a right ventriculotomy using cardio-pulmonary bypass. In infants and in patients with severe pulmonary hypertension the operative mortality is high, but in children over the age of two and in patients whose pulmonary artery pressure is not greatly elevated the mortality of operation is about 5%.

Patients with Tetralogy of Fallot have cyanotic heart disease and right to left shunts. In the past few years considerable palliation has been obtained in these individuals by increasing the pulmonary blood flow by some type of systemic-pulmonary artery anastomosis. However, a significant percentage of individuals so treated have had a recurrence of their difficulty and it is believed that those who remain well face a decreased life expectancy because of their persistent cardiac anomalies. At the present time it is possible to correct completely this complicated anomaly under direct vision during cardio-pulmonary bypass. The mortality of such an operation is about the same as that encountered with the former shunt operations. Corrective surgery should not be attempted in the very young and for this reason there is still a place for systemic-pulmonary artery shunts in infants who do not tolerate their disease well. In some instances underdevelopment of the pulmonary artery will not permit the anatomic correction of the anomaly and in this instance the systemic-pulmonary shunt may be indicated with complete repair contemplated at a later date. Patients who have undergone a successful shunt and who outgrow the benefits of the shunt and develop increased cyanosis and exercise intolerance are also candidates for open operation and anatomic correction of the anomaly.

Mitral stenosis is the most commonly seen type of acquired heart disease for which surgical therapy is required. Minimal indications for surgical intervention include the presence of a mitral diastolic murmur, plus some indication of right ventricular failure such as dyspnea on exertion, paroxysmal nocturnal dyspnea, hemoptysis, congestive failure and easy fatigability.

The event of peripheral arterial embolism is an urgent indication for surgical intervention. Mitral stenosis is a mechanical lesion for which the heart can compensate to a considerable degree but once signs of ventricular failure supervene only release of the mechanical obstruction can return the patient to good health. Although physical signs are very helpful in the evaluation of a patient with mitral heart disease who is symptomatic, fluoroscopic examination of the heart is essential to help assess the nature of the valvular lesion. In some patients, combined right and left heart catheterization is necessary to decide on the type and severity of the valvular deformity.

In the average patient with mitral stenosis, closed operation with either blind finger fracture of the agglutinated commissures or manipulation with the valvulotome is the procedure of choice. With these techniques the results are excellent in about eighty per cent of the patients brought to operation. The mortality is less than 5 per cent. Of the remaining group, most fall into the category of patients who have such severely deformed valves that reconstruction is impossible or they have been in such severe difficulty that their heart and lungs can never recover normal function even though the valvular obstruction be relieved. It is, therefore, desirable to refer patients with valvular heart disease and symptoms to the surgeon before irreversible changes have taken place for the operative mortality is much higher in the severely ill group while at the same time the end results are much poorer.

At the present time we are selecting a certain group of patients with mitral heart disease for open heart operation using the pump-oxygenator. These are patients whose lesions are not amenable to the usual blind valvulotomy techniques and include those with severely calcified valves, associated mitral insufficiency or aortic valvular disease, secondary valvuloplasties and those with a history of arterial embolization pointing to a thrombosed atrial appendage in whom the danger of dislodging a clot at the time of blind manipulation would be relatively great. There is no doubt that the risk in this group of patients is relatively greater with open heart surgery but it is believed that the end results will justify the increased risk and a greater number of patients will benefit including a significant number of individuals who cannot be helped at all with the usual surgical approach.

Aortic stenosis is a disease characterized by a rapid downhill course and early death once the symptoms of angina, syncope or heart failure have appeared. It is, therefore, desirable to refer patients with the characteristic aortic systolic murmur for surgical evaluation at the earliest sign of difficulty. These patients should be studied by combined right and left heart catheterization in order to determine accurately the gradient across the aortic valve and the cross section area of the aortic opening. Since medical therapy affords patients with



severe aortic stenosis only transient benefit, surgical repair should be advised in every instance in which there is any possibility of the patient surviving the procedure. Although some degree of success has been obtained using closed surgical techniques, many patients cannot be helped by such a procedure and in some a distressing amount of regurgitation appears after blind dilatation of the valve. The present technique of open operation using cardio-pulmonary bypass, moderate hypothermia and cardiac arrest seems to offer the best chances for successful repair. The valve can be inspected carefully, the commissures opened under direct vision, mobility restored by excision of calcium deposits, defects of the cusps repaired and replacement or irreparable cusps by a cusp prosthesis carried out. Since many of the patients subjected to the procedure are poor risks and "dead-end" cardiacs, the operative mortality is high but the 18 to 25 per cent figure reported is no higher than that the patient faced undergoing the closed operation.

Ventricular aneurysms occur following myocardial infarction in many individuals and should be excised if they result in a significant decrease in the cardiac output. Symptoms are produced by the paradoxical movement of the aneurysmal sac during ventricular systole diminishing considerably the effective ventricular stroke volume. Closed repair has been reported in isolated instances but the presence of clot in the aneurysm makes blind clamping of the neck hazardous because of the high incidence of emboli. The open heart approach permits cross-clamping of the as-

cending aorta and direct vision excision of the sac, evacuation of all clots from the left ventricle and deliberate repair of the defect.

At the present time there are a number of acquired valvular diseases for which repair is sometimes possible using open heart techniques. These include aortic and mitral valve incompetency with or without associated stenosis. Patients who appear to have predominant insufficiency of these valves may be cured by proper operation in many instances. Experience with a limited number of these lesions has led us to recommend open heart surgery when the patient had begun to fail on an optimum medical regimen. Dramatic results may be obtained in some instances and although the risk is great if the outlook is otherwise hopeless many patients will elect operation.

From this brief and somewhat incomplete resume of the commonly seen and correctable cardiac lesions it can be noted that the surgeon has a great deal to offer in the rehabilitation and cure of the patient with both congenital and acquired heart disease. With the advent of heart-lung machines and open heart operations the scope of surgery has been tremendously extended. This progress will continue and it may be anticipated that within a few more years many additional diseases will fall within the realm of surgical repair and that hope for a normal existence will be offered many people who now can only be offered palliative medical treatment.

171 Harrison Avenue, Boston 11, Massachusetts

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### RESTORATIVE MEDICINE IN GERIATRICS — *Continued from Page 355*

will enable them to take care of the minor and frequently seen physical disabilities without the need of admitting their patients to already overtaxed institutional facilities. The specialized facilities of the rehabilitation centers and services should be used for those whose disabilities are so severe that the resources of their homes are insufficient to offer them the necessary services.

In order to render restorative services the physicians must have a working knowledge of the principles and practices of therapeutic exercises, the elements of bracing, prosthetics and the use of conventional and functional splints. The intelligent application of some of the physical therapeutic modalities can in some instances be most helpful whereas their indiscriminate use may be useless or even harmful.

The purpose of this brief paper is not to provide technical information, but rather to call the attention of practicing physicians to the problems created by the growing number of disabled and chronically ill people and to indicate a constructive approach which through

application of simple methods can materially alleviate physical suffering and social isolation.

In recognition of the need for coordinated solution of the problems created by the aging population a White House Conference on Aging has been authorized by the Congress. President Eisenhower signed the measure into Public Law specifying that the Conference be held in the month of January, 1961 in Washington, D. C. Those who are familiar with the contributions of the White House Conference on Children to the general improvement in child care are looking forward with great anticipation to the conference on aging. The recommendations of the conference will have a direct effect on the medical and institutional care for the aged; therefore, it is important that the medical profession should be broadly represented and exercise its influence in translating the recommendations into practice. Such representation will serve to affirm the physicians traditional leadership in the affairs of the community.

# A Clinical Assessment Of N-benzhydryl-N'-cinnamyl-piperazine (Cinnarazine) In Seasonal Allergic Rhinitis\*

IRVING W. SCHILLER, M.D.\*\*

Research at an accelerated pace continues for more potent and less toxic histamine antagonizing compounds. Recently a number of newly synthesized antihistaminic compounds, with claims of greater potency and safety, have been subjected to extensive pharmacological studies and made available for clinical trials. One of these new compounds, a tertiary diamine, is N-benzhydryl-N'-cinnamyl-piperazine (Cinnarazine\*). See Figure I for its chemical structure.

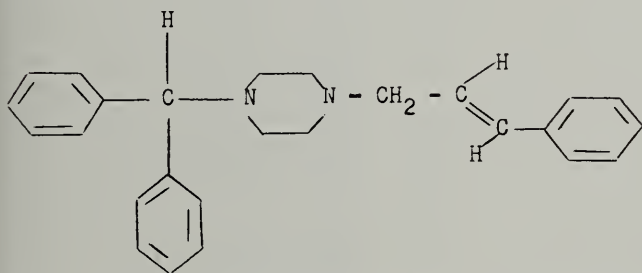


FIG. 1. N-benzhydryl-N'-cinnamyl-piperazine (Cinnarazine).

In animal experiments, Cinnarazine was shown to be not only a potent histaminolytic agent but in addition had rapidity of onset of action, prolonged activity and absence of significant toxicity. Unless used in extremely large doses, intravenous administration of the drug had no noticeable effects on the central nervous system. It did not interfere with reflexes studied nor did the drug have an effect on the autonomic nervous system<sup>1</sup>.

Preliminary studies with Cinnarazine in patients indicated that the drug might be of value in the treatment of certain allergic and related diseases. Significant soporific effects, even on high dosage schedule, were not evident. These findings were sufficiently provocative to warrant further clinical trial. Our experience with the use of this new compound in the treat-

ment of hay fever (seasonal allergic rhinitis) is summarized in this report.

## MATERIALS AND METHODS

Eighty patients with hay fever, as judged by history, symptoms, physical examination and suitably performed skin tests, were treated with Cinnarazine between March 31, 1959 and September 15, 1959. There were forty one males and thirty nine females ranging in age from eight to sixty-five years with a median age of thirty-one.

The severity of each patient's hay fever at the time treatment with Cinnarazine was begun is indicated as follows: one plus indicates the presence of mild symptoms with no interference in sleep or ability to carry on daily activities; two plus indicates some interference of the patient's ability to work or sleep; and a classification of three plus indicates symptoms severe enough to curtail and disturb sleep. See Table I.

The majority of patients were receiving injections of allergenic extracts and no change in this regimen was made. Cinnarazine was made available as 5 and 10 mg. tablets; the daily dose varied from 5-30 mg., usually prescribed equally at four hour intervals on an "as needed" basis. The patients were observed at frequent intervals at which time careful inquiry was made as to the time lapse between taking the drug and signs of relief, the length of time a dose of the drug was effective, the degree of relief and the presence or absence of side effects. Treatment with the drug varied from three to fifty-six days with a mean of nineteen days.

## RESULTS

The salient clinical features of the eighty patients and the results of treatment with Cinnarazine are shown in Table I. Response ratings reflecting the subjects' perceived effectiveness of the drug were scaled from 0 - 3, with 0 rating indicating lack of effect; a score of 1 was given if relief of symptoms occurred for less than two hours; 2, if relief was noted for two hours but less than four hours and 3, when relief lasted four or more hours. These response ratings to Cinnarazine were arrived at chiefly by statements made by the patients and to some extent by changes noted on

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\*Kindly supplied as MITRONAL brand of Cinnarazine (R-1575) by G. D. Searle and Company, Chicago, Illinois.



TABLE I — SUMMARY OF EXPERIENCE WITH CINNARAZINE IN PATIENTS WITH HAY FEVER

No.	Age	Sex	Duration of Disease in years	Severity†	Pollen Injection Therapy	Other Allergic Manifestations	Approximate No. of Days on Drug	Average Daily Dose Mg.	Response Ratings*	Side Effects	Patient's Comments Comparison with Other Antihistamines
1	20	M	5	xx	Yes	No	28	20-30	3		Better than cpd—1
2	35	F	12	xx	No	No	40	20	2		Preferred cpd—2
3	37	F	14	xx	Yes	No	21	20-30	2		Same as cpd—3
4	52	F	7	xxx	Yes	No	30	20-30	3		Better than cpd—3
5	18	M	4	xx	Yes	No	21	10-20	3		Equivalent to cpd—4
6	37	F	11	xxx	Yes	No	28	30	2	Sl. Drowsy	Equivalent to cpd—3 and cpd—5
7	20	F	4	xxx	Yes	Asthma	30	15	2		No relief of asthma
8	21	F	5	x	Yes	No	15	20-30	3		As effective as cpd—3
9	41	M	17	xx	Yes	Urticaria	40	20-30	2		No effect on urticaria. Better than cpd—3
10	10	M	2	xxx	Yes	No	10	10-15	1	Sl. Drowsy	"Trimeton is much better."
11	44	M	23	xxx	Yes	Asthma	30	20-30	3		Relieved Asthma. Better than cpd—3
12	58	F	22	xx	Yes	No	21	5-10	2		Equivalent to cpd—2
13	52	F	18	x	Yes	No	7	20-30	1		cpd—5 is preferred
14	8	M	2	xx	No	No	7	5-10	0		
15	40	F	20	xxx	Yes	No	35	10-20	3		Better than cpd—3
16	16	F	5	xx	Yes	No	15	20-30	3		Better than cpd—5
17	22	F	4	xx	Yes	No	30	20-30	2		Better than cpd—3
18	38	M	3	xx	Yes	No	21	20-30	2	Sl. Headache	
19	65	F	27	xxx	No	No	5	15	0		
20	37	F	15	xxx	No	No	28	15	3		As good as cpd—1
21	62	M	30	xxx	No	No	28	15	2	Dry Mouth	
22	38	F	15	xx	Yes	No	10	10-15	1		
23	12	M	2	xxx	No	No	5	10	0		
24	61	F	12	xx	Yes	No	21	10-15	2		As good as cpd—1
25	40	M	29	xxx	Yes	No	4	15	0		
26	16	F	6	xxx	Yes	No	21	10-15	1		cpd—3 preferred
27	20	F	3	xx	No	No	28	15	2		
28	10	M	4	xxx	Yes	No	4	10-15	0		Required steroids for relief
29	38	M	6	xx	Yes	No	35	10-15	2		cpd—4 superior
30	34	F	10	x	Yes	No	14	15	2	Drowsy	As good as cpd—5
31	37	M	1	xx	Yes	No	28	10-15	2		Better than cpd—1
32	17	F	8	xxx	Yes	Asthma	15	15	1	Very Drowsy	cpd—4 superior, no relief of asthma
33	45	F	20	xxx	Yes	No	35	20-30	3		Superior to cpd—3
34	49	F	20	xxx	Yes	No	56	10-15	3		Superior to cpd—3
35	49	M	15	xx	Yes	No	7	15	1		
36	26	M	4	xxx	No	No	35	10-15	2		Equivalent to cpd—1 and cpd—3
37	11	M	3	xx	No	No	10	10	2		Better than cpd—1
38	20	F	4	xxx	Yes	Asthma	14	15	2		Some relief of asthma
39	17	M	3	xxx	Yes	No	14	10-15	0		cpd—3 more effective
40	50	F	20	x	Yes	Asthma	10	15	2		Some relief of asthma
41	55	F	35	xx	Yes	No	35	15	2		
42	52	M	27	xxx	Yes	Asthma	21	10-15	3		Superior to cpd—5. No relief of asthma

physical examination. Generally, the time lapse between taking the medication and noticeable signs of relief ranged from fifteen to forty-five minutes and in only an occasional case did activity exceed six hours. Inspection of the data in Table I shows that of the eighty patients, twenty one (26%) gave Cinnarazine a top rating of 3, thirty one (39%) gave the drug a rating of 2, sixteen (20%) a rating of 1 and twelve (15%) found the drug to be ineffective and rated 0.

In addition to hay fever, five patients had seasonal bronchial asthma (Cases #7,11,38,40,44) and four patients had bronchial asthma of the perennial type (Cases #32,42,68,69). See Table I. Among the former group three described improvement in their asthma while taking Cinnarazine and in the latter group such relief was not reported. The one patient (Case #9) who in addition to hay fever had urticaria obtained no relief of this skin affliction from Cinnarazine.

#### SIDE EFFECTS

Side effects were mentioned by only nine (11%) of

the eighty patients. Seven patients complained of drowsiness, two of which were made very drowsy; one had headache and one had dryness of the mouth. The two patients who complained of being very drowsy had no difficulty after a suitable dosage adjustment of the drug. In no case was it necessary to discontinue Cinnarazine.

#### COMPARISON OF CINNARAZINE WITH OTHER ANTIHISTAMINES

In fifty-six of the eighty patients an attempt was made to compare, on the basis of the patient's previous experience with antihistamines, the effectiveness of Cinnarazine with Polaramine®, Chlor-Trimeton®, Pyribenzamine®, Dimetane®, Tacaryl® and Trimeton®. A total of twenty-two patients rated Cinnarazine as equivalent to Polaramine, Chlor-Trimeton, Pyribenzamine, Dimetane and Tacaryl; twenty-two patients preferred Cinnarazine to these and Trimeton and fifteen found Cinnarazine less effective than these other drugs. See Table II.

TABLE I — CONTINUED

No.	Age	Sex	Duration of Disease in years	Severity†	Pollen Injection Therapy	Other Allergic Manifestations	Approximate No. of Days on Drugs	Average Daily Dose Mg.	Response Ratings*	Side Effects	Patient's Comments Comparison with Other Antihistamines
43	54	F	23	xx	Yes	No	21	15	1		Equivalent to cpd—2
44	40	F	14	xx	Yes	Asthma	28	15	2		Asthma not helped
45	13	F	8	xx	Yes	No	21	10-15	2		As good as cpd—3
46	39	M	15	xx	Yes	No	28	10-15	3	Sl. Drowsy	cpd—4 superior
47	39	F	18	xx	Yes	No	14	15	3		Preferred to cpd—1
48	38	M	23	xx	Yes	No	56	10-15	2		Superior to cpd—5
49	38	M	25	xx	Yes	No	30	10-15	3		Superior to cpd—3
50	26	F	3	xx	Yes	No	5	15	1		
51	23	F	9	x	Yes	No	42	10-15	3		Superior to cpd—3
52	28	M	4	xx	Yes	No	3	10-15	0		Equivalent to cpd—4
53	24	F	17	xx	Yes	No	28	5-15	3		Superior to cpd—2
54	51	M	4	xx	Yes	No	10	10	0		
55	39	M	26	xx	Yes	No	7	10-15	0	Drowsy	
56	29	F	7	xx	Yes	No	30	10-15	3		Preferred to cpd—3
57	27	F	10	xxx	Yes	No	14	15	2		
58	22	M	4	x	Yes	No	30	15	3		As good as cpd—3
59	19	F	10	xx	Yes	No	7	10-15	1		
60	13	M	1	xx	Yes	No	30	5-15	2		
61	15	M	9	xxx	No	No	7	10-15	0		Equivalent to cpd—4
62	19	M	1	xxx	Yes	No	7	15	0		
63	14	M	6	xx	No	No	5	10	1		cpd—2 superior
64	11	F	5	xx	No	No	5	10	2		cpd—2 superior
65	37	F	8	xx	Yes	No	21	15	0		
66	17	M	6	xxx	Yes	No	14	15	3		As good as cpd—3
67	24	M	8	xxx	No	No	14	10-15	1		Same as cpd—5
68	26	M	20	xx	Yes	Asthma	30	10-15	2	Very Drowsy	No relief of asthma
69	39	M	10	xxx	Yes	Asthma	21	15	1		No relief of asthma
70	64	M	31	xx	Yes	No	14	15	2		cpd—5 preferred
71	59	F	15	x	No	No	10	10-15	2		cpd—3 better
72	12	M	2	x	No	No	7	5-10	1		Equivalent to cpd—5
73	11	M	3	xx	No	No	7	5-10	1		Equivalent to cpd—3
74	30	M	6	xx	Yes	No	10	15	1		cpd—1 better
75	22	M	12	xxx	No	No	12	15	3		Better than cpd—4 or cpd—3
76	64	M	20	xx	Yes	No	8	10-15	3		Same as cpd—3
77	13	M	4	x	Yes	No	10	10-15	2		cpd—5 preferred
78	12	M	2	xx	No	No	7	5-10	2		Better than cpd—1
79	42	F	10	x	No	No	5	10-15	2		Better than cpd—1
80	17	F	6	xxx	Yes	No	7	10-15	1		Same as cpd—4

† x — mild  
xx — moderate  
xxx — severe

\* 0 — Ineffective  
1 — Relief less than two hours  
2 — Relief for at least two hours but less than four hours  
3 — Relief for four hours or more

cpd—1 Pyribenzamine  
cpd—2 Polaramine  
cpd—3 Chlor-Trimeton  
cpd—4 Tacaryl  
cpd—5 Dimetane

TABLE II  
COMPARISON OF CINNARAZINE WITH OTHER  
ANTIHISTAMINES\*

Antihistamine	Equivalent	Preferred	Less Effective
Polaramine	2	1	3
Chlor-Trimeton	9	10	3
Pyribenzamine	3	5	2
Dimetane	4	4	3
Tacaryl	4	1	3
Trimeton	—	1	1
Totals	22	22	15

\*See text for explanation

DISCUSSION

A drug appraisal, in the absence of suitable controls, presents a problem because of the tendency on the part of the patients to give a new drug enthusiastic support. Furthermore, there are the usual variations to be considered among patients with hay fever and the difficulty in evaluating subjective symptoms. These

limitations notwithstanding, an analysis of our experience with Cinnarazine found that, though Cinnarazine did not quite fulfill the findings of animal experiments, the drug provided satisfactory symptomatic control in the majority of the patients.

Fifty-two (65%) of the eighty patients with hay fever had a perceived effectiveness rating of 2 or better. Only twelve (15%) of the subjects failed to obtain amelioration of symptoms. Since the patients in this study represented failures of specific immunization therapy and were known to respond poorly to antihistamine drugs in general these over-all results may be of significance.

Rather prominent were the insignificant number of side effects produced by the drug and here as with other antihistamines the characteristic action was sedation. In no case, however, was it necessary to discontinue the drug. The severity and frequency of side reactions are of the same order of magnitude observed with some of the more recently introduced antihistamines<sup>2,3</sup>.

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# Raymond Vieussens

## And The Affairs Of The Heart

EDWARD PODOLSKY, M.D.

The place of the heart in the scheme of life had been noted by many physicians from the earliest times. Some had noted that the heart was the living pump that sent the blood coursing through the arteries; others observed that the heart had a tendency to enlarge when it labored under the disadvantage of a disease or deformity; still others noticed that unusual sounds were emitted when the valves of the heart were twisted out of shape. There was one physician who in the early years of modern medicine made the heart his one absorbing interest in life, who studied the heart in all its intricacies of structure, shape and form, and arrived at conclusions regarding its function in health and disease. This physician was Raymond Vieussens.

Raymond Vieussens was the son of a lieutenant-colonel in the French army. He was born in the little village of Vieussens in Rouvergue, France, in 1641. Altogether too little is known of his life. He graduated in medicine from the University of Montpellier (whose most illustrious alumnus was Rabelais, doctor, priest, and author). At the age of 30, Vieussens became physician to the Hospital of St. Eloys.

Dr. Vieussens was interested in all aspects of human anatomy, but his first great interest was in the nervous system. In 1671, he began a systematic investigation of the nervous system with the stated purpose "... not only to improve as much as I could the beautiful treatise on the brain and spinal cord of the celebrated Willis, but, in addition, to describe exactly all the nerves of the extremities, the description of which he dared not undertake, saying that it was the work of an infinitely great and infinitely tedious labor ... I undertook to describe the nerves of the skin although M. Diemerbroeck had regarded their descriptions as impossible."

Vieussens was setting high and noble tasks for himself. There was not the least doubt that the young doctor had great confidence in his abilities as did all young doctors. At any rate, Vieussens began his task in neuroanatomy with tremendous enthusiasm. During the first ten years of his service at the Hospital of St. Eloys he dissected 500 human bodies in an attempt to find out what caused their deaths, at the same time paying particular attention to the structure of the nervous system. He used these bodies "not only to discover the normal structure of the brain and spinal cord, but also to follow the nerves from their origins to their insertions."

In 1684 Vieussens assembled all his dissection notes

and observations regarding the nervous system and published them in book form under the title "Neurographia Universalis." This immediately became the best and most authoritative work of its kind, and Vieussens was catapulted into fame. Honors came fast. He was immediately elected a member of the Academy of Sciences in Paris. In England Vieussens' book was received with equally great enthusiasm, and he was elected a Fellow of the Royal Society in London. The book was written with such fluent grace and easy style that even laymen could read and understand it. Rather astonishingly for such a scholarly work it became a best seller. In fact, the king of Spain was so much interested that he read the entire work during his trip from Montpellier to Madrid.

There is now no doubt that Vieussens "Neurographia" was the most complete work on the nervous system of the time. It gave the most complete description of the brain and spinal cord, pointing out that the spinal cord is not simply a prolongation of the brain but an independent structure showing enlargements where the nerves emerge at various places. He further showed that the spinal cord has functions of its own which are of the utmost importance in the human body and described various parts of the brain for the first time, notably the pyramids and olivary bodies.

From then on his reputation became world-wide. In 1688 he was called to Paris to attend the Marquis de Wardes and was granted a pension of one thousand pounds a year by Louis XIV. "His Majesty ordered me," said Vieussens, "when I had the honor to thank him for the great favor, to continue to work as much as I could and make new discoveries in the human body."

The new problem that Vieussens assigned himself was the study of the lymphatics and blood vessels of the body. He entered upon this new task with great vigor. A short time after his arrival in Paris, Mme. de Montpensier, the cousin of Louis XIV, appointed Vieussens her physician, a post he held until her death in 1693. After this he returned to Montpellier and in 1705 published a book embodying his studies of the lymphatics and blood vessels which attracted widespread attention and praise.

There is no doubt that Raymond Vieussens was a man of great talent and versatility. He was not merely content to be known as a great anatomist; he also wanted fame as a chemist. Unfortunately, he was not

very proficient in this field. For example, he believed that he had made a great discovery by distilling an acid from a mixture of blood and clay. He obtained permission to demonstrate the new discovery publicly at Montpellier, in the great amphitheatre of the faculty of medicine before both professors and students. He had spoken before the assembly for only a short time when one of the faculty members, Chirac, arose and claimed the discovery as his own. In the resultant confusion the meeting was hurriedly adjourned. The dispute continued to rage, however, until Astruc, one of the leading doctors of the day, was induced to act as an arbiter. He decided that it was absurd to quarrel over an imaginary substance and that the acid obtained by distillation did not come from the blood but from the substances added to it.

Thereafter Vieussens determined to devote his talents and energies to more familiar fields, namely, anatomy and physiology. After completing his work on the lymphatics and blood vessels, he "recognized the impossibility of discovery and explained clearly the primary, natural, moving principle of those liquids without having also given a clear idea of the true structure of the heart." This naturally led Vieussens to a careful study of the heart, which, when published in book form, was the most thorough study to appear up to that time.

Vieussens mixed fancy with fact in his writings. Although some of his speculations were erroneous, others were strangely prophetic of modern findings concerning the functions of the human heart. Vieussens' book was an attempt to explain the structure and movements of the heart, and he described many cases of heart disease to aid in his explanations.

His work on the heart was arranged and written in an orderly and logical manner, beginning with a discussion of the outermost covering of the heart, the pericardium. Vieussens vividly described the clinical course of several patients who had died of an inflammation of the pericardium and described what he found at autopsy.

Among other things, Vieussens described the course of the muscular fibers of the heart remarkably well. He correctly described the structure of the left ventricle, the large chamber, the course of the coronary vessels that supply the heart with blood, and the valve in the large coronary vein. The high point in his book is reached in Chapter XVI, which described the internal surface of the left ventricle. It is here that we find a description of a patient suffering from stenosis (closing up) of the mitral valves and of another patient suffering from aortic insufficiency (the valves not closing properly).

The first of these patients was a druggist, Thomas d'Assis, aged 30. He was admitted to St. Eloys Hospital where Dr. Vieussens examined him. "I examined his state; he was lying in bed, his head high. His respiration seemed to me very difficult, and his pulse ap-

peared feeble and quite irregular; his lips were the color of lead, and his eyes were downcast; the legs and thighs were swollen and cold rather than warm."

This patient died one week later, and Vieussens performed an autopsy. He found the heart to be markedly enlarged, the coronary veins dilated, and the cavity of the right ventricle and the right auricle had become excessively large. Vieussens continued his autopsy, and "in examining the extraordinary dilation of the trunk of the left pulmonary vein, and of its common openings, I perceived that the opening of the left ventricle appeared very small, and that it was of an oblong, oval shape, and in seeking the cause of such a surprising fact, I discovered that the mitral valves of this ventricle were really bone, and I understood that, as they were hardened, they became thickened and shriveled enough to produce a marked narrowing of the lumen of the heart."

This was an accurate description of mitral stenosis. Vieussens connected the clinical symptoms with the autopsy findings in a most striking manner, making a very distinct contribution to the understanding of heart disease and its more accurate detection, even before there were stethoscopes to make this task easier.

The mechanism of failure of the heart in this ailment was described in very accurate terms by Vieussens: "The lumen of the left ventricle being so much stenosed and its margin having lost all its natural suppleness, the blood could no longer enter as freely and abundantly as it should have, into the cavity of the ventricle; in the beginning the circulation was embarrassed; the pulmonary vein began to dilate . . . the branches of the pulmonary artery and vein . . . were too full of blood and consequently so dilated that they compressed the vesicles and prevented the air from entering and leaving freely; that is why the patient always breathed with difficulty. The smallness, feebleness, and inequality of the pulse came from the very small quantity of blood which the left ventricle furnished to the aorta, from the weak force with which it was pushed into the lumen of the artery and from the irregularity of the contractions."

These conclusions were sound and in accordance with much later teachings. He was able to think through a clinical problem with great clarity. In this brilliant manner he helped establish the diagnosis of heart ailments on a firm anatomic basis.

The second patient of Vieussens was Jean Chiford, aged 30, an epileptic who was brought to St. Eloys Hospital during one of his attacks. Vieussens subjected him to a thorough examination. "After having noted the depression of his eyes, the puffiness and pallor of his face, I examined his pulse which appeared to me very full, very rapid, hard and irregular, and so strong that the artery of first one and then the other arm struck the tip of my fingers as much as a cord would have done which was tightly stretched and violently

*Continued on page 366*





*attains  
sustains  
retains*

*extra  
antibiotic  
activity*

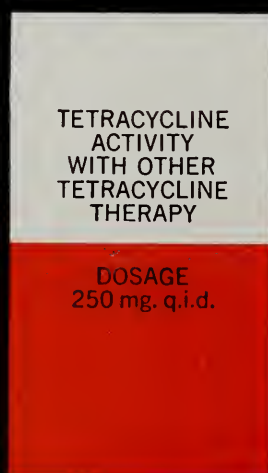
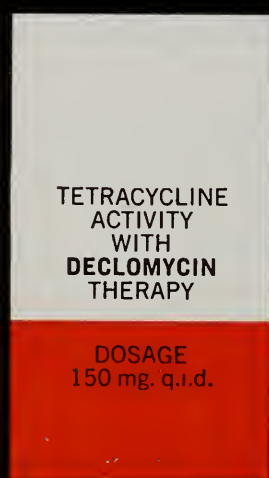
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## *sustains* activity levels evenly

**DECLOMYCIN** Demethylchlortetracycline sustains activity levels through the entire therapeutic course, the high activity levels needed to control the primary infection and to check secondary infection at the original—and another—site. This combined action is usually maintained without the pronounced hour-to-hour, dose-to-dose, peak-and-valley fluctuations which characterize other tetracyclines.



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PROTECTION AGAINST PROBLEM PATHOGENS

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levels 24-48 hrs.

**DECLOMYCIN** Demethylchlortetracycline retains activity levels up to 48 hours after the last dose is given. At least a full, extra day of positive action may be confidently expected. The average, daily adult dosage for the average infection—1 capsule q.i.d.—is the same as with other tetracyclines...but **total** dosage is lower and duration of action is longer.

**CAPSULES**, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

**PEDIATRIC DROPS**, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

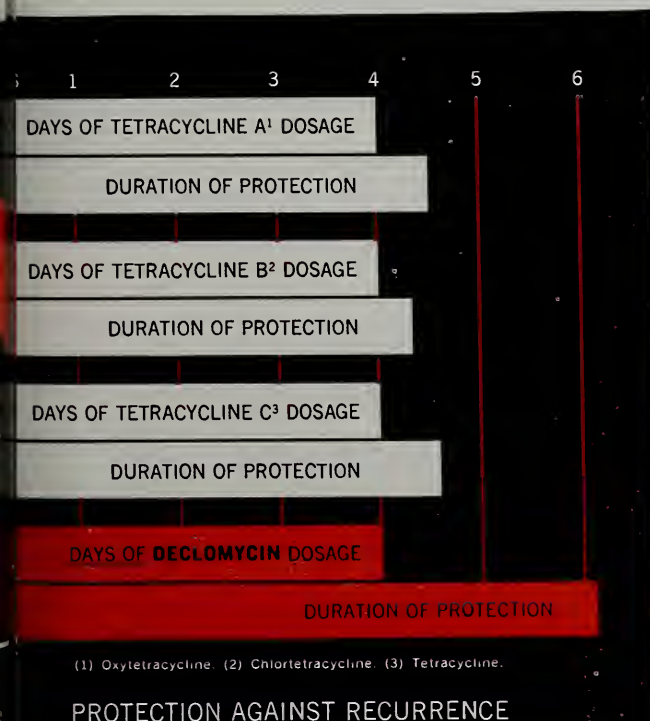
**SYRUP**, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

**PRECAUTIONS**—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.



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shaken. The pulse of this patient, the like of which I have never seen nor hope to see, convinced me that he was suffering from a violent palpitation of the heart. I was not deceived in it; for having questioned him upon this fact, he told me that for a long time he had not been able to rest comfortably on either side nor, indeed, on his back, if his head were not very high, because the marked beating of his heart prevented it; and he added that when he lay on one side or the other, and particularly on the left, it seemed to him that someone was striking on his ribs with a hammer."

The patient died three days later and at the autopsy Vieussens found that: "The left ventricle was extraordinarily dilated; the walls of the arch of the aorta appeared to be very thick, very hard, and cartilaginous-like; the semi-lunar valves were stretched and cut off at their tip; all of these cuts, which had some resemblance to the teeth of a saw, were totally osseous."

Continuing his discussion of this case, Vieussens says: "The left ventricle could not push into the aorta the blood it should furnish it except by very violent contractions; and as the valves were cut off their ends

could not approach each other close enough so as not to allow any opening between them; that is why every time the aorta contracted it sent back into the left ventricle a part of the blood which it had just received. It was then that the disturbance in the direction of the blood occurred, caused by the rigidity and the stony notches of the aortic valves, which caused the palpitation of the heart and the beating of the artery which occurred in very strong impulses."

This description, in very clear terms, helped to clarify the mechanism of heart disease and heart failure which was little understood at that time. Dr. Vieussens was apparently the first to note the throbbing pulse in aortic disease, and he understood its mechanism with perfect clarity.

Raymond Vieussens died in 1716, one of the leading physicians of his time. He clarified many difficult points on heart disease and he laid the foundations of a more accurate system of diagnosing ailments traceable to the diseased and failing heart. He was one of the really great healers of all time.

1049 East 18th Street, Brooklyn 30, New York

#### A CLINICAL ASSESSMENT OF N-BENZHYDRYL-N'-CINNAMYL-PIPERAZINE (CINNARAZINE) — *Continued from Page 361*

There is the likelihood (though this is pure speculation) that had the daily dose of the drug been substantially increased, a much higher effectiveness rating may have been achieved. However, an increase in dosage, though providing a better response, may have risked a greater incidence of undesirable side effects. We feel, though, that additional dose response studies might prove profitable.

##### SUMMARY

1. N-benzhydryl-N'-cinnamyl-piperazine (Cinnarazine), a new oral synthetic antihistaminic compound, has been used in the treatment of eighty patients with tree, grass and ragweed hay fever. All patients were having active symptoms at the time they were included in the study.
2. Cinnarazine was taken in oral doses of 5-30 mg. a day, for an average duration of nineteen days.

Under the conditions of this study the drug appeared to be effective in reducing some or all of the manifestations of hay fever.

3. Undesirable effects (chiefly sedative) produced by Cinnarazine were relatively unimportant and easily controlled.

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330 Dartmouth Street, Boston 15, Massachusetts

# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Editorial

### *Three Factions Look At Current Health Issues*

KENNEDY'S, NIXON'S AND THE A.M.A.'S

When Senator John Kennedy made his acceptance speech he pointed out how strongly he felt about the aged medical problem. Much of Kennedy's philosophy in the welfare field was revealed on August 19, 1958, when he delivered a major speech on the Senate floor calling for a ten point "Bill of Rights for our Elder Citizens." The basic thesis was that the full resources of the Federal Government should be enlisted in the effort to meet the urgent needs of the aged. Kennedy's Bill of Rights calls for: (1) Wider employment opportunities for the elderly; (2) Expanded vocational training facilities; (3) Better housing; (4) Adequate medical and dental care; (5) Increased old age, survivors and disability payments; (6) Improvement of the public assistants program; (7) Increased recreational facilities; (8) Expanded research in chronic illness prevention; (9) More training and research in geriatrics; and, (10) Effective aid for widows and dependents of the elderly.

Senator Kennedy feels that substandard nursing home conditions are a particularly serious problem and to raise these standards calls for a combined state and federal action. But, whenever possible, he feels that the chronically ill should be housed in their own homes. This can be done if existing public health plans for visiting nurse services are expanded. This would serve a double purpose. On one hand, it would reduce the

cost of caring for the patient and on the other hand, it would supply the patient with a home environment, which is often a prelude to complete and fast recovery. Kennedy has called for a detailed staff study of the aging problem and he feels that there is an urgent need for a massive federal health insurance program for the aged. "Unfortunately," he declared, "voluntary health insurance has not and cannot do the job." Although insurance companies have made a splendid effort, it is extremely unlikely that they can reach our needy older citizens. No program of health insurance for the aged can be effective unless; first, all persons at all age levels are enrolled so that the premiums can be paid during the long period of youthful good health. Second, the benefits are sufficient to pay the entire cost of hospitalization and nursing service. Third, there is some provision for diagnostic services to encourage preventive medicine. Like the Forand Bill, Kennedy's proposal would be linked with the Social Security System. Benefits would be paid through Social Security taxes. Unlike the Forand Bill, however, it eliminates surgical benefits. The Bill does not in any way interfere with doctor-patient relationships, the Kennedy memorandum asserted. It does not affect, in any way, the fees doctors may charge their patients. There is no provision dealing with medical services. Unlike other bills, it contains no provisions for surgical benefits. The only effect upon



the medical profession is to allow physicians to use nursing service more often, take advantage of diagnostic procedures in the treatment of patients over 65 and given greater freedom in the use of hospitals and nursing homes. And, one may summarize Kennedy's philosophy regarding health issues by his statement that voluntary health insurance has not and cannot do the job and the only way that our elder citizens can be effectively reached is through the medium of a program of federal assistance.

Vice president Nixon has managed to maintain steadfast in his opposition to compulsory medical aid for the aged. The resulting compromise platform that Nixon advocated at the GOP convention was a plank calling for a program covering only persons of limited means and requiring state contributions. Most important, it gives the beneficiary the option of buying private insurance — in contrast to the democratic advocacy of a national compulsory health insurance program. The republican candidate will introduce and support legislation which will provide federal assistance to voluntary health insurance plans. The vice president thus advocates and encourages commercial and voluntary insurance companies to participate in some form of a program which will supply needed aid to our elder citizens. Vice president Nixon would oppose any great state program to aid the needy which might inevitably head in the direction of herding the ill and the elderly into institutions whether they desire this or not. He likewise feels that any such state program would threaten the high standards of American medicine. The republican candidate feels that we should recognize that the present system of distribution of medical care in the United States is not perfect. There are many obvious imperfections. These imperfections, as long as they do exist, are the basis for the argument which the opponents of government medicine constantly use to sell the program. He likewise feels that whenever possible, the medical profession should take voluntary actions which will reduce the imperfection. This improvement might be helped in a program of subsidizing medical schools on a voluntary basis rather than upon a government basis. He likewise stated that additional voluntary action is needed in two fields; getting better geographical distribution of medical care and hospital facilities and encouraging, whenever possible, voluntary health insurance programs.

In all that he has done in the health and welfare fields, the new GOP presidential nominee has emphasized voluntary over compulsory action regarding aid for needy individuals.

Unfortunately, the financing of health care for the aged has been thrown into the political arena. And, in the presidential election year, violent controversy has surrounded the subject both in and out of Congress. Because of this fact, the A.M.A. has taken an active part and has spent a great deal of time and effort in proposing a plan that might be acceptable to Americans across

the width and breadth of our nation. The American Medical Association is entirely in favor of helping those of the aged who need help to finance their health cares. But, the Association does not believe this necessitates the creation of massive federal machinery to help those who neither need or want help. Many legislative proposals have been advanced during this session of Congress, but only one of these measures is tailored to meet the real problem of how best to help the people who need help. The title of this Bill which has been approved and advocated by the A.M.A. is the Mills Bill and it is designed to help those who really need help. It does not make the mistake of treating all of our 15,500,000 older people as hardship cases, which they are not. It provides aid only to those who need it and it preserves the right of the non-needy to take care of themselves. By restricting and limiting its effects to the near needy minority, the Mills Bill allows the majority of the public to continue to use the voluntary method of private health insurance prepayment plan. The Mills Bill is not a measure of compulsion. The Mills Bill makes the state primarily responsible for the administration of the program, not the Federal government, this is as it should be according to the A.M.A. This organization of ours feels and is convinced that health care costs of the needy and near needy can best be determined locally, can best be met locally, and cannot either be determined or met through mechanisms operating out of Washington. This is in contrast to the Forand Bill which advocates that the Federal government should increase Social Security taxes and use the money to finance medical benefits for everyone covered by old age, survivors, and disability insurance program. The proponents of the Mills Bill feel that personal medical care is primarily the responsibility of the individual. When he is unable to provide for himself, the responsibility should proportionally pass to his family, the community, the county, the state and only when all these fail, to the Federal government. The determination of medical needs should be made by a physician, and the determination of eligibility should be made at the local level with local administration and controls. The American Medical Association strongly advocates that the Senate as well as the House of Representatives pass the Mills Bill. The American Medical Association feels that this is the ideal bill because at present we do not need a bill which will apply to all the aged for many of the elder citizens are healthy citizens and do not need medical care. Many of the elder citizens also are in a better financial position than most people expect and the problem of financial hardship of the aged is often over exaggerated. From a statistical point of view, it is felt that only about 15% of American citizens are considered to be on public welfare, and therefore, eligible to receive medical care under federally aided public assistance programs. The fact that many of the aged are in good health and are under fair financial circumstances has been overlooked by those considering the problem of providing health

care for the aged. Unfortunately, some Americans either are unaware of the facts or unmindful of them, have yielded to panic and proposed the creation of massive federal machinery to bring about a national compulsory health insurance for all of our aged population. Their thinking is based upon the false premise that the aged are as a group; sick, debilitated, and bankrupt.

The Mills Bill is thus the advocacy of the American Medical Association. It is designed to help those who really need help. It does not make the mistake of treating our 15,000,000 people as a homogeneous group across the land. It will provide aid only to those who need aid and it preserves the right of the non-needy to

take care of themselves. By limiting its effect to the near needy minority, it allows the majority to continue its use of voluntary methods. The Bill makes the State primarily responsible for the administration of the program and not the Federal government and most people who understand the need for old age health assistance are convinced that health care costs of the near needy can best be determined locally and can best meet locally. This is a method which follows the traditional Federal-State organizational structure of our nation.

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James Edward Poulin, M.D.  
Member of the Editorial Board

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## SPECIAL ARTICLE

# What The Maine Division Of The American Cancer Society

## Can And Cannot Do For You And Your Cancer Patients

There is some misunderstanding among Maine medical doctors as to just what the Maine Division can and cannot do. Its limitations, of course, are budgetary ones. The statistical department of the American Cancer Society has said that the hospital and surgical bills alone of Maine cancer patients amounts to almost \$3,000,000. Aid in the sum of \$500 for each terminal patient would come close to \$1,000,000. For all purposes — research, education, and service — the Maine Division's budget is only approximately \$70,000 per year. It can be seen, therefore, that money available is extremely limited.

We can send dressings and a complete list of sick room supplies to the terminal patient at home. We can loan hospital beds, usually furnishing transportation where it is not available by the patients relatives or friends. We can pay part of, or the whole of, transportation to an out-of-state hospital for treatment of a cancer patient where the desired treatment is not available in Maine, provided that the physician in charge has a pathological diagnosis of cancer, has reserved the patient's bed at the nearest hospital, and obtains the approval of the President of the Maine Division. We are always ready to help physicians obtain aid for their patients through other agencies if necessary.

There are some things we cannot do. We cannot

pay hospital or medical bills for the reason hitherto given. Likewise, we do not have the money to furnish drugs. In no case can we furnish anything to a patient unless a pathological diagnosis of cancer has been established, and the patient's doctor will communicate this information to us. We cannot furnish transportation to and from clinics because of the numbers.

We do not enter a case unless with the advice and consent of the attending physician.

If the physician encounters patients who can use the services herein described, we invite him to communicate with us.

On conclusion, the Maine Division of the American Cancer Society is attempting, within its very limited budget, to fill the requirements of the terminal cancer patient which cannot be met by other agencies.

We furnish postgraduate training to the medical doctors in Maine by paying the expenses of authorities on cancer to speak at the annual and interim meetings of the Maine Medical Association. We furnish motion pictures for professional meetings and, if requested, will provide speakers for medical and lay groups.

WILLIAM F. MAHANAY, M.D.,  
President, Maine Division,  
American Cancer Society



# FALL CLINICAL SESSION OF THE MAINE MEDICAL ASSOCIATION Lewiston, Maine—Saturday, November 12, 1960

## PROGRAM

### St. Mary's General Hospital

- 10:30 A.M. Registration
- 11:00 A.M. Specialty Section Meetings (Location to be posted in hospital lobby)  
Guided tour of hospital
- 12:45 P.M. Luncheon — Hospital Cafeteria
- 2:00 P.M. Scientific Session — Desaulniers Hall
- 2:00 P.M. *Enzymes in Clinical Medicine*  
Felix Wroblewski, M.D.  
Associate Professor of Medicine, Cornell Medical School
- 2:45 P.M. *Management of Thrombo-embolic Diseases of the Central Nervous System*  
Raymond D. Adams, M.D.  
Bullard Professor of Neuro-pathology, Harvard Medical School
- 3:30 P.M. *Management of Thrombo-embolic Diseases of the Extremities*  
John J. Byrnes, M.D.  
Professor of Surgery, Boston University Medical School
- 4:15 P.M. Coffee Break
- 4:30 P.M. *Panel Discussion of Thrombo-embolic Diseases*  
Drs. Wroblewski, Adams and Byrnes  
(Please bring questions and/or problems)

### Evening Session — DeWitt Hotel

- 6:00 P.M. Social Hour — Ladies invited  
Sponsored by Androscoggin County Medical Society
- 7:00 P.M. Dinner — Ladies invited  
Speaker — Dr. Charles F. Phillips, President of Bates College

#### PROGRAM COMMITTEE

Chairman: WALDO A. CLAPP, M.D.

SCIENTIFIC PROGRAM: Paul J. LaFlamme, M.D.,  
Charles A. Hannigan, M.D., J. Paul Nadeau, M.D.

DINNER AND COCKTAILS: Daniel R. Shields, M.D.,  
Cyprien L. Martel, Jr., M.D.

EVENING SPEAKER: John A. James, M.D.

#### NOTES

Acceptable for 3 hours Category II credit by the American Academy of General Practice.

#### SPECIALTY SECTION MEETINGS

A meeting of the Maine Society of Internal Medicine and Maine Society of Medical Specialists will be included in the 11:00 a.m. Specialty Section Session at St. Mary's Hospital.



H. FISHER, M.D.  
COMMISSIONER

State Of Maine

Department of Health and Welfare

Diabetes Detection

In view of the forthcoming annual Diabetes Detection Week scheduled for November 13-19, 1960, it seems appropriate for the Department to again present a progress analysis of the results of the program of diabetes detection. As stated in a previous article in the JOURNAL (November, 1959), the program is set up on a continuing year-round basis and carried on in conjunction with the Department's tuberculosis screening program — now largely confined to industry and other groups of expected high yield.

The method employed in the screening program for diabetes is that of the Hewson-Clinitron, a semi-automatic mechanical device with which as many as 120 blood sugar determinations can be made in an hour. It should be emphasized at the outset that this is but one of the several recognized methods for diabetes detection — a method which seems especially well adapted

to handling large groups of persons in a relatively short period of time.

In late 1958, a clinitron was placed with the Department by the U. S. Public Health Service on long term loan, at the request of the Department. The same team of technicians operating the mobile x-ray unit was trained in the procedure of taking capillary blood and was thereby enabled to complete the two screening tests on each individual in these mass surveys.

The Department has employed the same method of processing diabetes reports as that used for the reporting of the tests on tuberculosis screening.

In January of this year, the level at which the screening was made was dropped from 180 to 160 mg. percent, a fact reflected in the data listed in the following tables I and II:

TABLE I  
Analysis of diabetes tests by groups, age and sex characteristics, etc.

Name of Group	Total Number Tested	% Male	% Female	Total Positive Screened (All reported to individual physicians)	Diagnosis Confirmed and Reported by Physicians				
					Not Diabetic	New Diabetic	Previously Known Diabetic	Diabetes Not Determined	No Report Received
Portland Health Dept.	1085	45.6	54.4	24	15	3	3	3	0
U. S. Gypsum Company	98	100	0	0	0	0	0	0	0
Me. Central Railroad	224	96.4	3.6	9	2	1	4	0	2
Waterville Foodhandlers	253	54.1	45.9	3	2	0	0	1	0
Oxford Paper Company*	2253	—	—	30	7	5	6	0	12
Burnham & Morrill	404	57.4	42.6	3	1	1	1	0	0
American Can Company	183	78.7	21.3	3	2	0	1	0	0
Farm & Home Week	860	32.8	67.2	15	8	2	4	0	1
Cotwell Woolen Mills	342	67.3	32.7	3	0	1	2	0	0
Belfast Industries	839	50.9	49.1	12	4	3	3	1	1
Scott Paper Company	416	88.2	11.8	6	5	0	0	0	1
Reformatory for Men	190	98.9	1.1	2	2	0	0	0	0
Totals	7147	57.53	42.47	110	48	16	24	5	17

\*Data not recorded for sex distribution.



TABLE II  
Groups tested at more recent dates for which  
insufficient time has elapsed to allow for complete physician reporting

Name of Group	Total Number Tested	% Male	% Female	Total Positive Screened (All reported to individual physicians)	Diagnosis Confirmed and Reported by Physicians				
					Not Diabetic	New Diabetic	Previously Known Diabetic	Diabetes Not Deter- mined	No Report Received
Albany Felt Company	152	65.1	34.9	3	1	1	1	0	0
Livermore Shoe Company	492	27.6	72.4	5	1	1	0	1	2
Union Fair	267	37.5	62.5	23	3	0	2	0	18
Acton Fair	80	37.5	62.5	7	0	2	2	1	2
Maine State Prison	484	100		5	0	0	0	0	5
Portland Industries	1813	63.5	36.5	23	1	1	4	0	17
Totals	3288	60.83	39.17	66	6	5	9	2	44

“Tissic” Or Typhoid

MARGUERITE C. DUNHAM, M.D.\*

The sun is still bright on the day of the bacteria. It is not set. Perhaps at times it is obscured by the scudding antibiotic clouds or the engulfing virus fog, but the cocci and bacilli shall yet be known.

In earlier days, among the bacterial parasites, the intestinal pathogens were of large stature. The destruction they dealt was devastating and this very violence wrought on humanity stirred mankind to mobilize what defenses it had and to create others. One such defensive creation was the science of public health. In many places cholera and typhoid fever were the primary problem responsible for the establishment of a department enjoined to protect the health of the public. And public health and private medicine combined in turn to wreck havoc upon intestinal infections to the extent that today these long-established scourges seem largely to have been dismissed and relegated to the archives of ancient medical curiosities.

Such dismissal at the least is dangerous and at the worst represents retreat into Utopian concepts of eradication of communicable disease.

The knowledge that ancient and now near-forgotten intestinal diseases are still active has been forced upon patients and practitioners of Aroostook County in the past year. For many years bacillary dysentery or shigellosis had been unreported and seemingly not present in the area. Then suddenly cases began to occur, all centered around one metropolitan district in the county. During late 1959 and throughout 1960, cases of shigel-

losis of at least two distinctive varieties have been diagnosed. Considerable epidemiological investigation has been carried out but no satisfactory solution has been reached in the search for the source of the bacteria causing these cases. The investigation has brought to light several sub-clinical infections and seems to indicate that there is a large reservoir of infected healthy persons.

It is difficult to believe that the diseases, apparently long absent from the area, suddenly in some mysterious manner entered the county and became well seeded in the population in the course of a few weeks. Rather, it seems more likely that the organisms had been present but unnoticed until there occurred another change in the medical picture of the area concerned, and that the presence of shigellosis is correlated with this change. The change is the establishment and use of a new infectious disease laboratory at the Caribou municipal hospital. Previously, good diagnostic laboratory facilities existed in the county but were poorly utilized. As the director of one such laboratory complained, “A laboratory is only as good as the physicians who use it — only as good as the specimens it receives.” He felt certain that much more disease was present in the locality than was diagnosed but he observed that he was powerless to do anything to remedy this. “If we ask for specimens,” he said, “we are accused of drumming up business.”

Then the new laboratory was set up and great effort

\*District VI Health Officer



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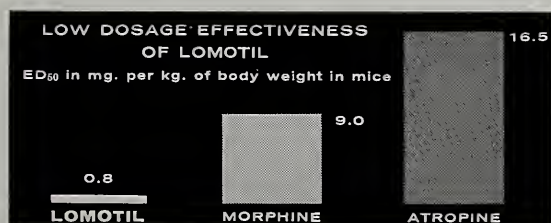
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## County Society Notes

## ANDROSCOGGIN

September 15, 1960

The Androscoggin County Medical Association was held at the Central Maine General Hospital in Lewiston, Maine on September 15, 1960. There were seventeen members present.

The meeting was opened by the President, Dr. Paul J. B. Fortier. It was voted to dispense with the reading of the minutes of the previous meeting.

Dr. James A. MacDougall of Rumford, Councilor for this District, spoke briefly on the meeting he attended in Augusta regarding care of aged.

Dr. George B. O'Connell was appointed as a member of the Public Relations Committee. Dr. Wilfrid A. Cloutier was appointed to replace Dr. Wirt L. Davis to the Maine Medical Association for one year as an alternate delegate.

DONALD L. ANDERSON, M.D.  
*Secretary*

## HANCOCK

September 14, 1960

A meeting of the Hancock County Medical Society was held on September 14, 1960 at the Hancock House in Ellsworth, Maine. Those members present were: Drs. Llewellyn W. Cooper, Thomas W. Williams, Elizabeth E. Williamson, Raymond E. Weymouth, James H. Crowe, W. Edward Thegen, Silas A. Coffin, Arthur M. Joost, Jr., Philip L. Gray, Russell M. Lane, Bradley E. Brownlow, Russell G. Williamson and Harry Kopfmann.

The meeting was opened by the President, Dr. Llewellyn W. Cooper. The minutes of the meeting held May 11, 1960 were read and approved.

The guest speaker was Dr. Philip Blinder of Bangor, Maine who presented a fascinating talk on the "Uses and Abuses of Tranquillizers." A brief question and answer period followed.

The meeting was adjourned at 10:55 p.m.

RUSSELL G. WILLIAMSON, M.D.  
*Secretary*

## KNOX

September 13, 1960

A regular meeting of the Knox County Medical Society was held on September 13, 1960 at the Thorndike Hotel in Rockland, Maine.

After a brief business meeting, Dr. Andrew Fergus, Psychiatrist from Bangor, Maine discussed "Chemotherapeutic Agents Used in Psychiatry."

JOHN A. ROOT, M.D.  
*Secretary*

## PISCATAQUIS

September 15, 1960

At the September meeting of the Piscataquis County Medi-

cal Association the following officers were elected for the coming year:

President, Odd S. Nielsen, M.D., Dexter  
 Vice-President, George C. Howard, M.D., Guilford  
 Secretary-Treasurer, Isaac Nelson, M.D., Greenville  
 Delegate to the Maine Medical Association House of Delegates: Linus J. Stitham, M.D., Dover-Foxcroft. Alternate: Charles H. Lightbody, M.D., Guilford  
 Censors: Francis W. Bradbury, M.D., Dover-Foxcroft; Fred J. Pritham, M.D., Greenville Jct. and Ralph C. Stuart, M.D., Guilford  
 Legislative Committee: John B. Valentine, M.D., Dover-Foxcroft; Albert M. Carde, M.D., Milo and George C. Howard, M.D., Guilford.

ISAAC NELSON, M.D.  
*Secretary*

## New Members

### AROOSTOOK

J. Frederick Hannigan, M.D., Madawaska  
 J. B. Leith Hartman, M.D., Patten  
 Arthur D. Pendleton, M.D., 3 Green Street, Fort Fairfield

## Deceased

### SOMERSET

George E. Young, M.D., 159 Water Street, Skowhegan, August 7, 1960

# Announcements

## Pineland Hospital And Training Center Pownal — Maine Treatment Building, Conference Room

1960

November 3	Lecture — Mental Deficiency	11:00 A.M.
November 10	Lecture — Play Therapy Techniques with Disturbed Children	11:00 A.M.
November 17	Lecture — Infants' and Childrens' Mortality in Maine	11:00 A.M.
November 17	Clinicopathological Conference	10:00 A.M.

## Fall Clinical Meeting, Maine Chapter Of The American Academy Of General Practice

The fall clinical meeting of the Maine Chapter of the American Academy of General Practice will be held Saturday, October 29, 1960 in Bangor at the Eastern Maine General Hospital and the Penobscot Valley Country Club.

## Southern Medical Association Section On Ophthalmology And Otolaryngology

The Section of Ophthalmology and Otolaryngology of the Southern Medical Association announces a most outstanding program for its annual meeting in St. Louis, Missouri, October 31 to November 2, 1960.

The program opens Monday, October 31 with a live color television program on "Preventive And Curative Treatment Of Retinal Detachment" by Paul A. Cibis, M.D., Associate Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis, Missouri and Bernard Becker, M.D., Professor and Chairman of the Department of Ophthalmology, Washington University School of Medicine, St. Louis, Missouri and the Staff.

Topics for the four day session will include: "Closure of

Corneal Wounds With Catgut Sutures," "A Clinical Study Of Alternating Hypertropia," "Contact Lens Symposium" and "Bleeding Following Tonsil And Adenoid Operations."

For any further information about the meeting, please contact the secretary, Dr. A. C. Esposito, Suite 1212, First Huntington National Bank Building, Huntington 1, West Virginia.

## American Board Of Obstetrics And Gynecology

The next scheduled examination (Part 1), written, will be held in various cities of the United States, Canada, and military centers outside the Continental United States, on Friday, January 13, 1961.

Reopened candidates are required to submit Case Reports for review thirty days after notification of eligibility. Scheduled Part 1 and candidates resubmitting case reports are required to submit Case Reports prior to August 1st each year.

Current Bulletins may be obtained by writing to: Robert L. Faulkner, M.D., Executive Secretary and Treasurer, 2105 Adelbert Road, Cleveland 6, Ohio.

## American Medical Association To Stage Second National Conference On The Medical Aspects Of Sports

The Second National Conference on the Medical Aspects of Sports sponsored by the American Medical Association, under the auspices of the AMA Committee on the Medical Aspects of Sports, will be held in Washington, D.C. at the Statler Hotel on November 27, 1960. The Conference will immediately precede the annual Clinical Meeting of the American Medical Association, November 28 through December 1, 1960.

As was true of the first meeting on this subject at Dallas, Texas, in November, 1959, the Second Conference will cover a wide range of subjects. Included will be papers, panels, and discussions relating to training and conditioning, prevention



of injuries, recognition referral and treatment of injuries, the psychology of sports participation and other subjects.

Those interested in receiving announcements concerning the Conference should address The Secretary, Committee on the Medical Aspects of Sports, American Medical Association, 535 North Dearborn, Chicago 10, Illinois.

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### Interim Session American College Of Chest Physicians

The American College of Chest Physicians will hold its annual Interim Session at the Shoreham Hotel in Washington, D. C. this November. The scientific sessions will be held on Saturday and Sunday, November 26 and 27. Monday, November 28, will be reserved for administrative sessions. Dr. M. Jay Flipse, Miami, Florida, President of the College, will preside.

Dr. Joseph W. Peabody, Jr., Washington, D. C., and his committee, have arranged a scientific program of exceptional interest including: "Symposia on Congenital Bronchopulmonary Disorders," "The Role of Steroid Therapy in Chest Diseases" and "Current Therapeutic Issues."

A highlight of the program will be the Fireside Conferences on Sunday evening, November 27. In addition, there will be three round table luncheon discussions on both Saturday and on Sunday. These will feature prominent speakers discussing various aspects of heart and lung diseases.

### Seminar On Kidney Disease

The Southeastern Region of the College of American Pathologists and the Virginia Society of Pathologists will hold a joint meeting at the John Marshall Hotel in Richmond, Virginia, on November 25 and 26, 1960, on kidney disease. The speakers will include Drs. Stanley M. Kurtz, Peter P. Ladewig, Henry D. McIntosh, George Margolis, Conrad L. Pirani, David E. Smith and Max Wachstein. The slide seminar will be conducted by Drs. Paul Kimmelstiel and Solomon Papper. The dinner speaker will be Dr. Frank C. Coleman, president of the College of American Pathologists.

The slide sets for this seminar on kidney disease may be purchased at a cost of \$15.00 per set by writing to: Dr. G. T. Mann, Professor of Forensic Pathology, P. O. Box 41, Medical College of Virginia, Richmond 19, Virginia.

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### General Practitioners And Internists

Applications for Charter Membership in the American Society of Diagnostic Radiology are now being received. Membership is open to General Practitioners and Internists who do or may desire to do some types of Diagnostic Radiology in their offices.

For further information please write to Louis Shattuck Baer, M.D., F.A.C.P., 411 Primrose Road, Burlingame, California.

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### "TISSIC" OR TYPHOID — *Continued from page 372*

was made through local medical societies to stimulate its use by all medical personnel. And new diseases began to turn up — new diseases such as dysentery and typhoid fever. These were recognized because physicians were submitting stool specimens for analysis and were receiving early reports from a laboratory staff eager to serve. As word of these happenings spread, even greater use was made of the laboratory facilities by outside as well as local physicians. This increased use led to expansion of facilities which in turn permitted even more rapid and more accurate reports, and as outside medical men sent in specimens, cases of dysentery and paratyphoid were found in their areas also.

Paratyphoid fever was found in two towns. Phage typing of the organisms by federal laboratories led to the discovery of a previously unknown carrier who was responsible for two entirely separate cases. In another instance, paratyphoid was found but proven by phage typing to be quite unrelated to the earlier cases.

The public health department was, with this information, able to take the appropriate steps to contain the bacteria. The department thus found itself, at least temporarily, almost wholly engaged in combating diseases that were supposed no longer to exist in this civilized land.

We present this information of Aroostook County experience as an illustration of the need for accurate lab-

oratory diagnosis of intestinal illnesses. We feel that a large reservoir exists of cases of such intestinal infection and disease but that they are not diagnosed as such because of the assumption that today's illnesses are either viral in origin or automatically amenable to antibiotic therapy without accurate diagnosis. The thus undiagnosed cases became untreated cases and these untreated cases provide the bacterial reservoir and the diseases continue uncontrolled.

An important step in the better control of this problem lies in the submission of a stool specimen for analysis before treatment. This is a simple procedure and greatly increases the chances for better treatment through diagnosis.

So, when next he sees a case of intestinal disorder, instead of saying "intestinal flu," the practitioner, while remembering the adage of the professor of medicine that "common things occur commonly," will do well also to recall the older adage — "seek and ye shall find." Look for the germs with the help of the diagnostic laboratory. Local, state, and federal laboratory facilities for the diagnosis of communicable diseases are at the free disposal of every physician in the State of Maine. By the full use of these facilities and by this way only can mankind expect to achieve control — not eradication which is probably unattainable anyway — but the more desirable control of its bacterial parasites.



# The Journal of the Maine Medical Association

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## Aging — A Personal And Community Concern

PAULINE A. SMITH\*

To create a backdrop for the consideration of aging with its rewards and penalties; its gratifications and disappointments; its pleasures and frustrations; its common and special needs and the gaps in fulfilling these needs, a review of pertinent statistical data would seem to serve a useful purpose. As various facets of the topic are discussed then it is possible to have in mind a clear picture of the proportions of the subject — that group of people who find themselves after reaching the age of 65 arbitrarily classified as "the aged." It should be remembered that in relation to life expectancy in the present and next generations, this is becoming increasingly a relatively younger age.

What are some of these compelling, vivid facts about the aged, the arbitrary label placed on those who have passed their 65th birthday, as used in this paper to refer to the group of people under consideration? First, this group sharing in common the one characteristic of having passed their 65th birthday, constitutes approximately 9% of the general population or 16 million persons. This figure might be looked at in another way that makes it more graphic because it is difficult to comprehend millions; the 16 million persons already over 65 in the United States today is more than twice the total combined population of the New England States.

Second, the "population explosion" at the other end of the life cycle from that about which the public has been reading and hearing so much in relation to contemporary birth rates, can best be illustrated by some statis-

tics cited recently at the National Health Forum which had as its theme this year "Positive Health of Older People." There are 3,000 individuals reaching their 65th birthday every day while 1,000 persons are departing from this life daily. In 1975 the 16 million tally will have multiplied and mounted to the staggering figure of 20 million. At the same meeting a well-known physiologist, Dr. Horvath of Philadelphia, noted that the natural life span of the human organism is in the area of 150 years. While only half of that potential is being realized now, he predicted that before too long a life span of 110 years, 120 years and upward will be a common occurrence in this civilization. In some Eastern cultures this is already actually happening.

A third area in which statistics reveal a significant picture is that relating to income. Taking all of the individuals in this group over 65 years of age, including those who are fully or partially employed, three out of every five have annual cash incomes of less than \$1,000, while another 20% are in the \$1,000 to \$2,000 bracket. About 80% of the aged individuals had cash incomes in 1958 of less than \$2,000. The average income for an over-65 family is about half that of all families. Or stated in different terms, in 1958 the average income for aged men was \$1,500 and for aged women, \$800.

A fourth statistical reference will further illustrate why for millions of aged people the matter of maintaining themselves on a decent standard of living presents a major problem. What of liquid assets to supplement inadequate incomes or to handle unexpected or emergency needs? In 1959 about two out of five aged spending units (37%) had liquid assets of \$200

\*Director, Division of Public Assistance, Department of Health and Welfare, Augusta, Maine.



or less. In the same year two out of three had less than \$2,000 in liquid assets.

This leads to a fifth area of the subject, which in the conclusions of the United States Senate Subcommittee on Problems of the Aged and Aging presents the Number One problem facing America's aged citizens, namely maintenance of good health at a period in life when income is lowest and actual or potential disability is highest. People over 65 use hospitals and medical care facilities, services and drugs to twice the extent they are used by the rest of the population. This is not a surprising fact in and of itself, but takes on greater significance when despite the increasing numbers of aged with private health insurance the U. S. Department of Health, Education and Welfare predicts that by 1965 there will be at least 8 million aged people who will not have any type of health insurance. Since there are 120 women to every 100 men over 65 and the life expectancy for women is two to three years greater than that for men and since it has already been said that the average general income for aged women is \$800, this acquires even more startling implications as America's Number One dilemma facing the senior citizens.

Now what of the living human beings who make up the flesh and blood of these statistics? They are the people who present one of the most dramatic challenges of contemporary America — so dramatic and so compelling that the President has ordered a meeting — the nation's first White House Conference on Aging — to be held in January 1961. Three thousand official delegates from all over the United States will meet together to think creatively about positive approaches, to develop blueprints for positive action — individual and collective — aimed at healthier, happier and more productive living for adults. The Senate Subcommittee on Aging has described this challenge in its report to the Committee on Labor and Public Welfare as "how America will act to meet the problems that the process of aging and our modern civilization create. The problems are many and they, too, reach out and touch all Americans. There is the young couple with aged parents to support; the middle aged who find employment opportunities closing to them; those about to step over the threshold into the strange and uneasy world of retirement; and the aged themselves who, having reached the alleged 'golden years', find them a badly tarnished imitation."

It is interesting here to note that 7,000 delegates from various parts of the U. S. met in Washington for the White House Conference on Children and Youth. Although their concern is with the group causing the "population explosion" at the other end of life's cycle, the fact that they are talking about opportunity for healthy growth, satisfying living, human needs and resources provides encouragement for all today. To the extent that healthy, normal growth opportunities are developed for the individual in his formative years, the adult will bring to every stage of his life, those inner resources and capacities that will enable him to cope

with external forces with lessening need for interventive help from outside agents. At the same time, it must be remembered that society has a responsibility for all of its members and that environmental manipulations and resource development must facilitate and support the individual's use of himself and of social institutions in fulfilling his needs.

Aging is a perfectly natural process that begins at birth and continues throughout the life of the individual. It is not a disease as so many seem to think. It does not imply senility. It is not a calamity, even for those who live well beyond the age of 65. However, for too many it does bring catastrophic results and will continue to do so until there is a better balance between human needs and capacity on the one hand and resources and opportunity on the other.

There are a variety of ways by which human needs might be classified as personal. Most of these needs are common to all human beings regardless of age — in fact it has been said that old people are the same as young people, only more so. In keeping with the topic of "Aging — A Personal and Community Concern," this classification of needs will be specifically related to the aged. In first position the personal aspect of the topic is placed because an individual must first live with himself and for too many older people, unfortunately, their horizons must begin and end with self-preoccupation. They are engaged in a constant struggle with the personal frustrations inherent in their thwarted attempts to fulfill their needs for survival on more than a subsistence level. Man is by nature a social being. He turns away from social outlets only as he has been hurt, disappointed, denied opportunity, or as he becomes more fearful, discouraged, burdened. A physician who is a specialist in geriatrics and strongly identified with older people as well as knowledgeable about them said recently that too much security is debilitating, that people need stress and worry to keep them alert and vigorous. With this statement the majority will agree, providing society does not deny the individual the right to maintain himself in human dignity, the right to use those personal inner resources he possesses, the right to be helped when he does not possess sufficient internal and external resources to meet his common and special needs and finally the right to proper protection when his own capacities have failed. Many experts in the field agree that there must be a better balance than presently exists between security and stress for the aged.

Stated in terms of psychological needs, human beings, old as well as young but more difficult of achievement for the old in general, need most of all a sense of belonging, being loved and important, being needed and of worth; an opportunity to be self-respecting and to be respected by others; a climate in which to be independent and self-directing; the opportunity to participate in family and community life, to make some contribution to society, however small, to keep alive that spark which feeds one's creative drives.

... older workers bring to a job a maturity of outlook, wisdom and skills stored up over the years, sound judgment and a sense of responsibility ...

Psychological needs are so intertwined with and dependent on material, practical, physiological needs that separation is only a matter of convenience and at best an artificial distinction. The writer is borrowing from a classification of needs stated in the "Bill of Objectives for Older People" developed a few years ago by the Council of State Governments in order to further identify needs and goals as a personal concern. They are (1) equal opportunity to work — to be gainfully employed according to one's physical and mental ability; (2) adequate minimum income — economic means to permit living on a decent American standard; (3) home living — pleasures of living in their own homes if able and when not able to do so in suitable substitute homes; (4) social services — such as counseling, information, vocational retraining and social casework; (5) participation in community activities — to form or participate in groups of their own and other ages engaged in recreational, religious, educational and civic activities in their communities; (6) homelike and high quality institutional care when needs cannot be met in their own or other private homes; (7) physical and mental health including adequate nutrition, preventive medicine and medical care suited to their physical and mental conditions; and (8) physical and mental rehabilitation toward restoration to independent, useful lives in their homes and communities.

Now from the community point of view what among the many obvious and obscure aspects of the subject loom most prominently in the concern of all interested. The already substantial proportion of persons over 65 in the population accompanied as it is with compulsory retirement practices in the vast majority of industries touches on several aspects of personal needs already identified and in too many instances denies to the individual the opportunity to express these needs. For example lip-service is given to the older individual's right to equal opportunity to work and yet how many employment openings are there in the communities represented here today for people in their 60's, 70's and beyond unless they are self-employed in the professions or their own businesses? A few years ago the National Association of Manufacturers came up with some pertinent conclusions from a 5 year study, namely that industry is losing over 3 billion dollars a year through mandatory retirement; older workers bring to a job a maturity of outlook, wisdom and skills stored up over the years, sound judgment and a sense of responsibility not always found in younger workers; and there are fewer accidents and less absenteeism among the older workers than among the younger employees. Nationally only one in five persons over the age of 65 is gainfully employed in full or part-time work. Only a few states

(14 or 15) have legislation aimed at preventing age discrimination in employment practices, and enforcement measures even in these states have doubtful effectiveness. The difficulties are intensified for the community in the small and larger sense, as well as for the aged and their families, by other changes in society, such as rising standards and costs of living, especially medical care, urbanization, differences in housing patterns, family mobility, yes, and automation, to use an overworked explanation for many of society's current ills and failures. These difficulties often express themselves for the individual, thereby becoming a subject for community concern, in unhappiness, physical and emotional suffering, isolation and loneliness, sub-standard living with respect to housing, food, and other basic living necessities which most persons take for granted, withdrawal and mental break-down (in this respect a recent survey showed that 80% of the forces causing mental break-down was loss — loss of loved ones, home, job, etc.) and last but not least, costly chronic physical illnesses that crowd hospitals and nursing homes. Many of these consequences can be avoided with intelligent preventive measures while others are inevitable with advanced age despite careful planning and require the best palliative measures that can be devised.

The writer is not presumptuous enough to suggest solutions or preventive measures for all or most of the concerns that have been mentioned but in closing it seems advisable to suggest what seem reasonable and important community responsibilities, referring now to the community in its more intimate sense and represented by each individual. First would be assigned responsibility for fostering and promoting whatever action and/or legislation respective convictions direct, whether it be in the direction of more coverage by and more adequate benefits to be paid from social insurance or expansion of private retirement pension plans for those who cannot or elect not to work; whether it be toward public provision for necessary preventive and therapeutic medical care or through privately insured plans. Next, individuals would be charged with more active, vocal expression of public opinion toward current arbitrary retirement practices. Positive support for adequate economic assistance for that decreasing number in the aged group whose resources from private sources and social insurance do not provide for essential needs is urged. It is the business of the interested citizens to learn about housing in their respective communities — ask about the quality of housing owned or rented by older people, is it safe, sanitary, pleasant, reasonably financed; or if it is a community living facility such as a voluntary or commercial boarding home or

*Continued on page 382*



# Concurrent Receipt Of Public Assistance And Federal Old-Age, Survivors And Disability Insurance

VANCE G. SPRINGER\*

In June, 1959, nearly \$5,500,000 was paid to 94,002 beneficiaries of Federal Old-Age, Survivors and Disability Insurance in Maine. Table I shows the number of beneficiaries and average amount of benefit in current-payment status as of June 30, 1959, by type of benefit.

In the same month a total of \$1,400,000 was authorized for 34,028 recipients of public assistance in Maine. Table II shows the number of persons and the average payment for the four public assistance programs in June, 1959.

## TRENDS IN NUMBER OF BENEFICIARIES AND RECIPIENTS

Between December, 1953 and June, 1959 the number of old-age, survivors, and disability insurance beneficiaries in Maine increased 82%. In the same period the number of public assistance beneficiaries increased by 21%.

Factors resulting in the increase in OASDI beneficiaries include the extension of coverage to agricultural workers, the introduction of disability benefit to the disabled and certain dependents, and the reduction in the minimum qualifying age for insurance benefits for women from 65 to 62 years.

The increase in the public assistance program between 1953 and 1959 primarily results from the inception of the program of aid to the disabled in 1955 and the expansion in the aid to dependent children program, which has become more and more of a program meeting need created by the absence of a parent from the home or by a parent's disability, and less a program meeting need due to the death of a parent.

## CONCURRENT RECEIPT OF INSURANCE AND PUBLIC ASSISTANCE

Since the complementary programs of old age, survivors, and disability insurance and public assistance

TABLE I

Type of benefit	Old-age and Survivors insurance		Disability insurance	
	Total Number	Average benefit	Number	Average benefit
Total	94,002	\$57.93	91,518	\$57.62
Old-age	54,976	66.00	54,976	66.00
Disability	1,839	83.30	xx	xx
Wife or husband's	14,125	36.19	13,880	36.22
Child's	11,243	41.32	10,843	41.81
Widow or widowers	9,238	53.36	9,238	53.36
Mother's	2,398	54.41	2,398	54.41
Parents	183	55.86	183	55.86

TABLE II

Program	Recipients	Average payment per recipient
Total	34,028	\$38.16
Old-age assistance	11,882	54.04
Aid to the blind	463	59.13
Aid to the disabled	1,838	58.89
Aid to dependent children;		
Total	19,845	26.61
Adults	5,252	xx
Children	14,593	xx

are both income maintenance programs and are a major source of income for the aged, paternal orphans and the disabled, there has been a growing interest in the relationship between the two programs.

For nearly ten years the Department has collected information on the number of old-age assistance recipients and the number of aid to dependent children families who were also receiving an insurance benefit. In February, 1960 the reporting system was broadened to include recipients of aid to the blind and aid to the disabled.

## OLD-AGE ASSISTANCE

In February, 1960, 38.3% of the old-age assistance

\*Director, Division of Research and Statistics, Department of Health and Welfare, Augusta, Maine.

TABLE III

NUMBER OF AGED PERSONS RECEIVING —						
<i>February</i>	<i>Both OASDI and OAA</i>					
	<i>OAA and/or OASDI</i>	<i>OAA only</i>	<i>OASDI only</i>	<i>Number</i>	<i>Per cent of OAA recipients</i>	<i>Per cent of OASDI beneficiaries</i>
1952	40,663	10,897	26,304	3,498	24.4	11.7
1953	45,757	10,233	32,258	3,266	24.2	9.2
1954	51,925	9,719	38,940	3,266	25.2	7.6
1955	56,879	9,091	44,268	3,520	27.9	7.4
1956	63,240	8,867	50,925	3,448	27.0	6.3
1957	66,841	8,289	55,156	3,396	29.1	5.8
1958	72,985	8,179	60,788	4,018	32.9	6.2
1959	76,362	7,712	64,325	4,325	35.9	6.3
1960	*	7,296	*	4,533	38.3	*

\*Data for 1960 not available.

recipients were receiving an old-age and survivors insurance benefit.

As shown in Table III the number of aged persons receiving old-age assistance and/or old-age, survivors insurance has increased steadily since 1952, so that by March, 1959 more than three out of four aged persons were receiving either OAA, OASDI, or both OAA and OASDI.

In this period the number receiving old-age assistance only decreased by a third, while the number receiving old-age and survivors insurance only had increased by 145%.

The increase in the number of aged beneficiaries has not only had an effect on reducing the size of the old-age assistance caseload, but, also in reducing the size of the assistance payment for cases also receiving a benefit payment. Benefit payments to old-age assistance recipients averaged \$44.13 in February, 1960 while the old-age assistance payment to these cases averaged \$41.52. The average assistance payment to persons not receiving an OASDI benefit was \$60.74 compared to an average payment of \$53.78 for all recipients.

#### AID TO DEPENDENT CHILDREN

Concurrent receipt of benefits is a less important factor in aid to dependent children than in old-age assistance. The assistance program provides financial aid to children deprived of care or support because of the death, absence from the home, or incapacity of a parent.

As a result of the growth of old-age, survivors, and disability insurance together with the decline in recent years of the total number of orphans, the proportion of families needing aid to dependent children because of the death of a parent has been declining. More than a third of such families were receiving aid to dependent children in 1948, 19% in 1953, 13% in 1956 and 11% in late 1958.

With an estimated 9 out of 10 of the Nation's pater-

nal orphans protected by the insurance program, few of the paternal orphans in the future will be without an insurance benefit. With dependents of disabled beneficiaries now eligible to receive benefits under the insurance program, fewer families in which a father is disabled may need to apply for aid to dependent children.

As shown in Table IV the proportion of families and children who were receiving both aid to dependent children and insurance benefits declined from 1955 through 1958. The extension of disability benefits to dependents of disabled workers in 1958 resulted in a slight increase in the proportion of families receiving both assistance and benefits.

TABLE IV

Concurrent receipt of OASDI benefits and assistance to aid to dependent children.

#### CASES RECEIVING ADC AND OASDI

<i>Year</i>	<i>Families as per cent of ADC families</i>	<i>Children as per cent of OASDI child beneficiaries</i>
1960	13.0	*
1959	12.6	16.7
1958	11.4	13.6
1957	11.9	13.9
1956	13.1	14.8
1955	13.1	16.0

\*Data not available.

In February, 1960 an estimated 755 families or 13% of the 5,787 families receiving assistance under the aid to dependent children program were also receiving an FOASDI benefit payment. Benefit payments were being received in behalf of 1,932 or 12.9% of the 15,025 children assisted.

For cases receiving both FOASDI and ADC the average benefit amount was \$95.27 and the average



TABLE V

Age group	Total recipients	Receiving OASDI benefits			
		Cases	Per cent	Average benefit amount	Average AB Payment
Total	443	66	14.8	\$46.33	\$47.27
18 - 49	89	6	6.7	45.50	48.17
50 - 64	162	17	10.5	63.29	34.59
65 and over	192	43	22.4	39.74	52.16

TABLE VI

Age group	Total recipients	Receiving OASDI benefits			
		Cases	Per cent	Average benefit amount	Average AD Payment
Total	2,075	280	13.4	\$47.30	\$48.87
18 - 49	823	80	9.7	25.44	52.24
50 - 64	1,252	200	16.0	56.05	47.53

ADC payment was \$84.48. For families not receiving a benefit the average ADC payment was \$93.50.

Because of the existence of maximum payments on ADC grants, families in concurrent receipt of both ADC and FOASDI more nearly have their needs met, based on departmental standards, than do families not receiving a benefit. In February, 1960 families receiving an FOASDI benefit had 83% of their budgeted needs met through the ADC payment plus other income. In contrast, only 53% of the needs of families not receiving an FOASDI benefit were met through the ADC payment and other income.

AID TO THE BLIND

In February, 1960, 66 or 14.8% of the 443 aid to the blind recipients in Maine were receiving an OASDI benefit payment.

As shown in Table V the largest proportion of beneficiaries were in the age group 65 and over. It is safe to assume that most of these beneficiaries receive benefits as retired workers or as aged dependents of such workers rather than as disabled workers. For the group under age 65 all would be disabled workers, except for a few women aged 62 or over, who were eligible for retirement benefits.

AID TO DISABLED

Of the 2,075 persons receiving assistance under the aid of the disabled program in February, 1960, 280 or 13.4% were also receiving a Federal old-age, survivors and disability insurance benefit.

Since the maximum age for recipients of aid to the disabled is 64, all recipients who receive a benefit payment, except women age 62 to 64, were beneficiaries under the disability provision of the Social Security Act.

As shown in Table VI the largest proportion of disability beneficiaries were in the age group 50-64, and the average benefit amount was more than twice as great as for the group age 18-49.

MEDICAL CARE PROVISIONS FOR PUBLIC ASSISTANCE RECIPIENTS

The Department provides two types of medical care for public assistance-hospital care, up to a maximum of 45 days in a fiscal year, and nursing home care. For the fiscal year 1958-1959 payments to hospitals and nursing homes totaled a little over \$1,800,000. Other medical needs of public assistance recipients must be met from their own income, contributions from relatives or, supplementation from State and Municipal general assistance funds.

AGING — A PERSONAL AND COMMUNITY CONCERN — *Continued from page 379*

nursing home, what are the standards of care and is there real effort to provide services related to the resident's or patient's needs? It is generally agreed that nearly half of the patients in nursing homes can be largely rehabilitated and returned to their own or substitute private homes where such services as good foster home care, visiting nurse, homemaker service, friendly visitors, clinics, etc, are available if needed. Solutions to these and other questions require use of national,

state and local resources for preventive as well as corrective measures. Above all they must be answered by a vigorous, intelligent, imaginative local citizenry who are willing to accept the challenge of learning more about needs in their own communities, how well these needs are being met and if there are gaps, planning positive action to tackle the problems in order of their urgency with the most simple and effective means at their command.

# General Characteristics Of The Tuberculosis Problem In Maine\*

## Morbidity And Mortality

KATHARINE D. GAY\*\*

The following report of salient facts regarding the occurrence of tuberculosis in Maine at the present time, is offered for purpose of analysis as well as insight into the factors underlying trends and some indications of the direction in which the Division of Tuberculosis Control is proceeding. The report will deal in general with morbidity and mortality; case-finding activities conducted by the central office staff of the Division; drug distribution, and certain statistics regarding the sanatoria. In general, the figures presented will cover the five-year period 1955-1959 inclusive. In certain instances where data was readily available prior to 1955, it has been included.

As a preface to the figures on morbidity, it is felt wise to point out that since the law requires each physician to report, in writing, the name of every person known by him to have tuberculosis, and further requires like notice from the physicians or chief officers in charge of hospitals or other institutions, it goes without saying that continuing plans for the control of this communicable disease depends to a large degree on the quantity and quality of reporting by the physicians of the State.

Table I presents the actual number of new active cases of tuberculosis of all types which were reported to the Division of Tuberculosis Control during the years indicated, and the rate of cases reported per 100,000 population for these same years. Using the 330 cases reported in 1955 as a base figure, it is seen that in 1956 there were 6.4% fewer case reports received; in 1957, 25.5% fewer; in 1958, 36.1% fewer; and in 1959 50.3% fewer. This indicates a 50% drop in case reports received in five years, or an average rate of drop in case reports received, of 12½% per year since 1955. In 1959, only 45% of the cases newly reported were hospitalized at any time during that year.

Concerning age and sex characteristics of newly reported active cases over the same period of time (1955-1959 inclusive) the predominance of males is noted as follows:

1955 — 60%      1956 — 56%      1957 — 57%  
1958 — 73%      1959 — 68%

During the past two years, by far the greatest number of cases reported have been over 45 years of age; namely, 57% in 1958 and 54% in 1959. It is, therefore, concluded that at the present time, the majority of newly reported cases of tuberculosis are among men over 45 years of age — a fact observed even prior to 1955. Statistics contained in the 1950-1952 Biennial Report of the Department indicate that there was three times more tuberculosis in males than in females — the greatest single number of cases in the age group 45 and over. Similarly with the 1952-1954 Biennial Report which showed that 65% of the cases reported for the biennium were males, and in the 45 to 64 year age group, there were five times more men than women.

Table II indicates the stage of reinfection type pulmonary disease as noted on the case reports received by the Division. A fair number do not specify the stage; included are those cases first reported by death certificates (although, during the past 5-year period, death certificates accounted for an average of only 4% of the new cases reported.)

Of those reports for which the stage of disease is indicated, the majority of cases are diagnosed in an advanced stage. Minimal cases accounted for 19% of the cases in 1955; 24% of the cases in 1956; 20% of the cases in 1958 and 17.5% of the cases in 1959. Over this 5-year period an average of 20% of the cases have been diagnosed in a minimal stage of disease. Table II records also the number of extra-pulmonary cases reported by years.

Although the problem today is measured by living cases rather than numbers of people dying from the disease, it may be of interest to note the decline in deaths between 1955 and 1959. These were as follows:

Year	Number of deaths	Death Rate per 100,000 population
1955	73	7.9
1956	64	6.9
1957	49	5.2
1958	46	4.9
1959	33 (provisional, by occurrence)	3.5

The drop in tuberculous hospitalized population over the past few years has been equally striking. Between 1956 and 1957 there was a drop of 9%; a drop of

\* Abstracted from a Paper presented at the Special Tuberculosis Conference Central Maine Sanatorium, April 6, 1960.

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TABLE I  
NEW CASES TB REPORTED BY YEARS BY TYPE OF DISEASE

Year	Total	Rate per 100,000 Population	Pulmonary Reinfection and Extra Pulmonary	Rate per 100,000 Population	Pulmonary Primary Phase
1955	330	35.6	303	32.7	27
1956	319	34.3	289	31.1	30
1957	246	26.2	224	23.9	22
1958	211	22.4	186	19.7	25
1959	164	17.3	160	16.9	4

TABLE II  
NEW TB CASES REPORTED BY YEARS  
PULMONARY REINFECTION TYPE AND EXTRA-PULMONARY

Year	Total	Pulmonary Reinfection Type Stage of Disease When Reported			Extra Pulmonary
		Minimal	Advanced	Not Specified	
1955	303	57	171	35	40
1956	289	69	161	30	29
1957	224	44	132	20	27
1958	186	38	109	6	33
1959	160	28	75	26	31

51% between 1957 and 1958; and a drop of 37% between 1958 and 1959 — or, for the 3-year period 1956-1959 there was a drop of 72%; an average yearly drop of 24%.

In line with the general trend throughout the country, the Division of Tuberculosis Control has, with equipment and personnel supervised from the central office, conducted mass x-ray surveys in the past years. One of the areas of activity in this respect was carried on at the State University and the other colleges of the State where surveys have been conducted over the eight-year period (1950-1957 inclusive). For a total of 30,409 x-rays taken in that period, only 5 diagnosed active cases were discovered — or, one case for each 6,080 films taken among this group. It was therefore felt wise to drop this program in 1958 and PPD was offered as a substitute — the actual testing to be done by personnel at the colleges.

For a varying number of years films have been supplied for hospital admission x-ray programs. Table III illustrates the results of these admission x-ray programs. Other x-ray case finding programs during the past 5 years are contained in the general summary, Table IV. Over the years, regional x-ray centers have been maintained in order to assist the public health nurses with their follow-up of diagnosed cases and the examination of contacts. In 1959, of 540 films taken at these x-ray centers (covering 16 locations in the State) no new

cases were found. Gradually, as the need becomes less and as local facilities (x-rays in hospitals and doctors' offices become available) these clinics in the outlying areas are being eliminated.

A report of this type would not be complete without reference in some manner to the location of tuberculosis hospitals in this State. The Division has recently made studies of this problem with the following findings:

One half of the population of Maine lives in seven and one-half of the geographically smaller counties of the State which comprise the southwestern area, namely: Knox, Lincoln, Sagadahoc, Cumberland, York, Oxford, Androscoggin and the southern half of Kennebec. An estimate of the population trend of the State, as it appears to be developing, indicates a slow increase in the total State population during the next fifteen years with a continuing increase in the southwestern area, so that by 1970 there can be expected to be approximately 57% of Maine residents in that section.

In the remainder of the State, the greatest concentration of population is in the Bangor area. It is expected that this concentration of population will continue. Dividing the State into two nearly equal population segments, as indicated above, a study of the number of new cases of active tuberculosis, exclusive of primary phase, reported to the Division of Tuberculosis Control during the past five years is given in Table A.

TABLE A

	1955 No. and % of Total Cases	1956 No. and % of Total Cases	1957 No. and % of Total Cases	1958 No. and % of Total Cases	1959 No. and % of Total Cases
Southwestern Population Group	172 — 58 %	148 — 53 %	113 — 50 %	93 — 56 %	65 — 50 %
Remainder of Population	123 — 42 %	127 — 47 %	112 — 50 %	74 — 44 %	64 — 50 %

TABLE III  
HOSPITAL X-RAY PROGRAM

Name of Hospital	Number Years of Study	Total Number Films Taken	Number Eligible Hospital Admissions	Number Admission Films Taken	Per Cent Admissions X-Rayed	Total X-Rays Interpreted Suspected TB	Total X-Rays As New Active TB Cases	Confirmed Cases
Central Me. General Hospital	10	30,901	59,438	24,972	42%	26	10	.032%
Maine Medical Center	13	108,006	107,941*	22,602	21%	220	40	.036%
Mercy Hospital	11	80,715		28,761		1,860	20	.024%
Omitting from above the years 1950-52-53-54 for which figures appear inadequate for number of confirmed new active cases (a total of 28,657 films): the percent of new cases is ..... .032%								
	6		35,338	16,318	49%			
Madigan Hospital	2	1,139	2,491	797	32%	10	0	0
Portland City Hospital	4	2,547	1,804	1,205	67%	16	4	.160%

\*1947 and 1948 Estimated

A report published by the National Tuberculosis Association predicting trends in tuberculosis incidence and reporting of cases, indicated (using 1955 figures as a basis) that a drop as great as 25% might be expected by 1970. (It will be remembered here that in Maine there was a drop of 50% in incidence in the past 5 years.) The same report stated that the greatest decrease of cases would be among individuals below the age of 45. The average age in southern counties will probably exceed that in northern, especially Aroostook. Assuming that the population of the southwestern area increases to 57% of the total, more than one half of the total number of cases can be expected to be reported from this area.

Since the study was attempting to establish how many hospitals for the treatment of the tuberculous would be needed in the State in the next 15 years, and where they should be located for the best advantage to all concerned, it seems reasonable to assume that if (a) each county continues to grow or decline in the

same manner as it has been in the past 20 to 30 years: (b) no major wars, or upset in the economy of any given county occurs; (c) the age composition of each county remains essentially stable; (d) nothing occurs which will radically cause any particular group to migrate; (e) the fertility rate will neither increase or decrease sharply, tuberculosis hospital facilities located in Bangor and in Portland will best serve the interest of the majority of patients in the State. A second choice which might be regarded as a more immediate, although temporary arrangement, until such time as plans could be made and executed in the suggested areas, is that of a single central sanatorium.

In conclusion, a few general statistics derived from an analysis of the Tuberculosis Case Register, made on December 31, 1959, may be of interest. On that date, there were 1,087 cases in the register; 277 were being treated for their tuberculosis in hospitals. This figure included 150 patient being treated in the State mental hospitals and 127 in tuberculosis hospitals.



TABLE IV  
GENERAL SUMMARY 1954-1959 INC.

<i>Activity</i>	<i>Total No. X-Rayed</i>	<i>Susp. TBC.</i>	<i>New Act. Case TBC.</i>
General Community Surveys (1 case/2,564 x-rayed)	53,841	377	21
Industry (1 case/2,394 x-rayed)	43,098	267	18
School Personnel	19,160	342	1
State and Federal Employees	7,119	75	1
Naval Reserve and Coast Guard Personnel	3,990	52	—
Institutions — Penal	3,134	70	3
— Mental	5,958	125	19
— Nursing Homes (Gunning Home)	121	6	—
Farm and Home Week	9,214	150	—
Fairs	9,993	224	1
Special Groups — Salvation Army and Slum Areas (1 case/961 x-rays)	1,923	18	2
Indians	115	7	1
Kennebec County Jail (9 mos.)	161	2	—
Grand Totals	157,827	1,715	67

On December 31, 1959, there were 810 cases who were not hospitalized, but who were apparently still in need of medical supervision. Two hundred and forty-three of the 810 were recorded as active pulmonary cases. Ninety-nine were non-pulmonary (active or inactive). The 243 active pulmonary cases represented 22% of the total number (1087) on the Register: 60% of them (147) had been hospitalized at some time or other.

#### SUMMARY OF BASIC FACTS

Between 1955 and 1960 the rate of new active cases reported in Maine dropped 50%. The death rate dropped 55%. Death certificates account for only 4% of the new cases reported. Between 1952 and 1957 the new active cases rate for the white population of the United States as a whole decreased 28.5%. In Maine during this period it decreased 41.9%.

In 1959 only 45% of the newly reported cases were hospitalized at any time during that year. More than one-half of the new cases reported were among males over 45 years of age.

In the last 3 years (1956-1959) the sanatorium population dropped 72%. The readmission rate was 41% in 1958; 46% in 1959. The against advice discharge rate was 24% in both 1958 and 1959.

According to the State TB Register on December 31, 1959, 243 active or probably active cases were in the Register who were not hospitalized — 33 had positive sputum reports within six months; eleven others had no report within six months but were positive on the last report which was over one year; 42 had negative reports in the past six months; and 136 were undetermined or had had no sputum tested in the past six months.

Mass x-raying has yielded the greatest number of new active cases from programs conducted in mental hospitals, among groups living in substandard areas, and in industrial plants.

There are approximately 1000 known to the Division of Tuberculosis Control who are in need of current medical supervision and approximately 2000 more whose disease is said to be inactive who need less constant supervision.

Of the 810 non-hospitalized cases still in need of medical supervision, 310 were registered as currently on drug treatment.

Studies of population trends, and residences of reported cases, indicate that facilities for the hospitalization of the tuberculous in Portland and Bangor will more realistically meet present and future needs.

# A Summary Of Tuberculin Reactor Rates Obtained Through Skin Testing In Maine Schools

ALTA ASHLEY, M.D., M.P.H.\*

**The rise in reactor rate with increasing age suggests that conversion from negative to positive occurs during school attendance, due to increased exposure to non-familial infectious cases.**

The study of reactor rates in various age groups of school children is a convenient means of measuring community infection and thus, indirectly, the effectiveness of control measures in force, since changes in infection levels would be expected to be reflected in changes in reactor rates. However, in order to compare results obtained from time to time or place to place and obtain valid figures, uniform methods of testing, reading and recording must be employed.

To assure uniformity of performance a policy statement for tuberculin testing was prepared by the Maine Trudeau Society and accepted by the Maine Tuberculosis Association December 12, 1956.<sup>1</sup>

Since that time tuberculin testing with PPD (purified protein derivative) has been carried out in many schools throughout the State. In the past three years 11,571 tests have been made under the provision of this policy and reported to the Division of Tuberculosis Control in sufficient detail to be summarized for this report.

Testing was done using intermediate strength, freshly diluted PPD 0.0001 mg. per ml. Intradermal injection of 0.1 ml. was the standard dose used, readings were made in 48-72° after injection and recorded as millimeters of induration. All reactions were recorded, those 5 mm. or more in diameter were considered to be positive.

Summary reports by school, town, or school district were prepared by age and sex. No consistent differences were noted from year to year, from one sex to the other, between rural and urban areas, or in different geographic areas in the state. All records were combined in making out this report, retaining only broad divisions by ages. Most children fell into the age groups 5-7, 12-14, and 16-18 years because in most schools testing was concentrated in the entering, eighth, and twelfth grades as recommended in the Policy

Statement. Data have been summarized for these age groups and presented in Table I, II, and III.

The reactor rate was found to increase with increasing age from 0.6 to 3.9%. If these rates are plotted on semi-logarithmic scale a nearly straight line progression is obtained indicating that reactivity increases by geometric progression at least through the age groups tested. If such a rate of increase persisted unchanged, 100% reactivity would be reached at approximately 35 years of age. This is known not to be true through random testing of older persons and contacts of known cases. Where the rate of increase begins to slow up cannot be determined from the data at hand.

In Tables II and III the numerical and percentage distribution of reactions by millimeters of induration is given for the three groups. Reactions under 5 mm. in size are of decreasing importance with increasing age although their rate remains almost constant — between 0.35% and 0.45% in all three groups. Such reactions are undoubtedly non-specific and due to a constant factor.

The rise in reactor rate with increasing age suggests that conversion from negative to positive occurs during school attendance, due to increased exposure to non-familial infectious cases. However, it may be chiefly a measure of community infection in the past, with conversion playing only a minor part. The answer to this must await a cohort study of children over a period of years or a conversion rate study with retesting of large numbers of children in succeeding years. Sufficient numbers of retests have not been reported at this time to allow for discussion of conversion rates, and the program is not old enough for a cohort study to be made as yet.

Overall participation in the present study was only fair. Some schools achieved 99-100% while others reached less than 50%. It was best among eighth graders, worst among twelfth graders who often felt too

\*District Health Officer, Department of Health and Welfare, Augusta, Maine.



TABLE I  
PPD TESTING IN CERTAIN AGE GROUPS 1957-1960

Age on Last Birthday in Years	Percent Participation	Total in Age Group	Total Tested & Read	Tested and Read																				Positive Not Measured	Previous Reactors	Total Tests Completed	Total Positive	Percent Reactors																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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old and independent to cooperate in the program. Absence at the time of testing was the chief factor in reducing participation among the youngest group. Participation was best in communities where education through the press, PTA meetings, and school health preceded the program.

As reactor rates decrease the percentage participation necessary to determine whether or not changes are due to chance alone approaches 100%. For example, a significant change of 0.5% from a rate of 1.0% requires 85% participation among a total of 2000, 99% of 100. Every effort must be made to obtain 99-100% participation in most schools in Maine where classes seldom number more than 100 students.

In the follow-up study of reactors most were found to be contacts of known cases, generally under supervision and non-infectious at the time of the testing program. In very few instances were the sources of infection not identified. These findings indicate that control measures have been effective. If in retesting of cohorts the reactor rate increment is less than that of age groups tested simultaneously this, too, will indicate that control measures have reduced the level of community infection.

According to a report by the Ohio Tuberculosis and Health Association<sup>2</sup> the goal of practical tuberculosis control has been reached when:

- 1. tuberculin reactor rates have reached
  - 1% in grade school children
  - 2% in high school students
  - 3% in college students
  - 5% in the population under 35
  - 10% in the population 35 to 50
  - 25% in the population over 50
- 2. tuberculosis death rates are not over 0.5 (less than 5 deaths in Maine annually)
- 3. morbidity rates are less than 5 per 100,000 annually (less than 50 cases per year in Maine)

In order to know whether or not one of the goals set for "practical" control of tuberculosis has been reached, skin testing in the schools will have to be rapidly increased so that a true picture of infection rates throughout the State can be obtained. It is most important that tests be conducted in uniform manner recorded accurately, and reported to the Division of Tuberculosis Control so that all information can be analyzed and pooled as necessary. Summary forms are available through the six District Health Offices where help is also available in the planning, execution and summation of any testing program.

The writer is indebted to Marguerite C. Dunham, M.D., for making available figures from her studies done in Aroostook County, and to the Maine Tubercu-

TABLE II

Distribution of Reactors by Size and Age Group							
Age	Size of Reaction in Millimeters					NM	Total
	1-4	5-9	10-14	15-19	20+		
5-7	16	13	15	0	2	4	50
12-14	9	15	22	4	3	8	61
16-18	8	14	26	9	13	10	80
Total	33	42	63	13	18	22	191

TABLE III

Percent Distribution of Reactors by Size and Age Group							
Age	Size of Reactions in Millimeters					NM	Total
	1-4	5-9	10-14	15-19	20+		
5-7	32%	26%	30%	0%	4%	8%	100%
12-14	15	25	37	6	5	12	100
16-18	10	18	33	11	15	13	100
Total	17	21	33	7	10	12	100

losis and Health Association and its affiliates for much of the data in other parts of the State.

SUMMARY

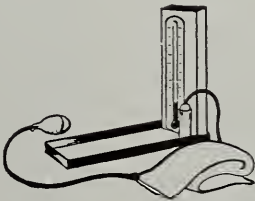
- 1. Information has been obtained on 11,571 tuberculin tests in Maine School Children from 1957-1960.
- 2. 10,272 children tested were in the age groups 5-7, 12-14, and 16-18 years.
- 3. Reactor rates for these groups were 0.6, 2.0, and 3.9 respectively, showing an almost straight line geometric progression.

- 4. The significance of these increases must await cohort studies, and short-term retesting to determine conversion rates.
- 5. There is no significant difference in reactor rates for reactions less than 0.5 mm. of induration for the three age groups.

REFERENCES

1. Policy Statement on the Tuberculin Test and its use, December 1956. Maine Tuberculosis Association, 2 Bridge Street, Augusta, Maine.

2. Ohio Tuberculosis and Health Association Program Policy Declarations, March 25, 1960.





# Ionizing Radiation Control

E. W. CAMPBELL, DR.P.H.\*

The practice of public health, although not often recognized, is a very broad concept of all environmental factors which may in any way have a deleterious effect on individuals and the public as a whole and the provision of necessary measures to guard and protect individuals and the public from harm. In the words of Dr. Bergsma, Commissioner of Health of the State of New Jersey, in a recent speech he stated "It is not often, during a lifetime, that a major new public health hazard appears. However, during the past decade with an ever-increasing use of nuclear energy for both peaceful and military purposes the entire world has become concerned with ionizing radiations. To meet this new challenge, public health workers must learn a new language — the technical speech of the radiation physicist; they may learn a new set of protective technics — using space or shielding to protect all from injurious radiation; and they must learn how to tell the public about these new developments in a way that will not frighten — but will persuade and encourage people to support proper protective measures."

One need not be a radiation physicist nor a radiologist to be prepared to accept the new challenge of assembling and acquiring information concerning the problem of radiation as it may influence legislation, regulations and the necessary public controls which may become needed from time to time to protect adequately all persons likely to become adversely affected and to provide for the beneficent uses of the new techniques, tools, and substances for the benefit of mankind.

On Tuesday, December 15, 1959 the Director of the Division of Sanitary Engineering attended a conference of representatives from the various New England states, New York, New Jersey, and Delaware, who are in charge of radiation control activities for the various states, with representatives of the United States Public Health Service at New York relating to the problems and responsibilities which may be created by Section 274 amending the Atomic Energy Act of 1954, as amended, which was signed by the President on September 23, 1959.

The conference was arranged under authority of the Secretary of Health, Education and Welfare, a member of the Federal Radiation Council, for the purpose of ascertaining the present level of radiation controls and capabilities of the delegated officials of the various states, whose responsibilities may now be or may be expected to be, to whom such activities are or may be

... very few states now have in  
existence adequate staffs for  
control of atomic energy products ...

assigned if agreements are adopted as indicated by the above Section 274. It was brought out —

1. That agreement of the Governors of the various states with the Atomic Energy Commission may very well be entered in at a reasonably early date so as to assist in developing adequate monitoring and regulatory facilities and for stimulating the recruiting and training of adequately trained personnel.

2. That any proposed agreement should be carefully reviewed by the legal representatives of the Governors for the purpose of indicating that in making any such agreements the various states do not relinquish any constitutional rights or prerogatives conferred by the Constitution of the United States.

It was thought by representatives of the Public Health Service that the Atomic Energy Commission's activities in relinquishing to the state local controls was an honest effort to improve supervision and regulation for public safety and not an effort to absorb states' rights. It is believed that the expansion of the use of atomic energy will be so great that the states will have to prepare regulatory personnel which if done on the federal level will require numerous personnel and expansion not presently contemplated by either the U. S. Public Health Service or the Atomic Energy Commission.

3. Any agreements or delegations of activities to be co-ordinated with state atomic energy co-ordinators when such officials are provided.

4. It was brought out by representatives of the State of Massachusetts that state regulations or legislation would be in effect for all persons and areas in the state excepting federal government reservations, and that any federal regulations or controls would be in addition to but not superseding state laws or regulations. Existing users of atomic energy so far have simply tried to comply with both federal and state laws and regulations.

It was recognized by all present that very few states now have in existence adequate staffs for the control of atomic energy products, plants or users of radioactive materials, but that a rapid expansion of such uses may be expected in the relatively near future and that all agencies will need to develop both personnel and facilities which presently are not available from any federal agency but that the Atomic Energy Commission and the

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United States Public Health Service will be in a position to assist in training and developing such personnel and facilities in such a manner as may be expected to be provided by future acts of Congress.

On the national level a number of bills have been introduced into Congress, some of which undoubtedly will be passed and which will have effects upon the general public. Reference is made to one of these, House of Representatives, Document 7214, which provided as follows: "To amend the Atomic Energy Act of 1954, as amended, with respect to cooperation with States.\*\* That, the following section be added to the Atomic Energy Act of 1954, as amended:

"Sec. 272. COOPERATION WITH STATES. —

"a. It is the purpose of this section —

"(1) to recognize the interests of the States in the peaceful uses of atomic energy, including but not limited to radiation hazards regulated by the Commission under this Act;

"(2) to recognize the need, and establish programs, for cooperation between the States and the Federal Government with respect to control of radiation hazards;

"(3) to promote an orderly regulatory pattern among Federal and State governments respecting radiation hazards and nuclear development and use;

"(4) to establish procedures and criteria for discontinuance of certain of the Commission's regulatory responsibilities, and the assumption thereof by the States."

On the part of the Department of Health and Welfare recent action has been taken and regulations were adopted in December, 1958 relating to radioactive materials, x-radiation and other forms of ionizing radiation. This was believed, with other states, needed and necessary for current activities and also to be prepared when and if Congress changes the existing federal controls and the Atomic Energy Commission transfers or releases to the states supervision of the lesser problems of control, registration, licensing, waste disposal and similar activities to the states. Even now the states are being asked to join with representatives of the Atomic Energy Commission in making inspections and surveys of present uses of radioisotopes and instruments based on them which are presently finding increasing use in industry as well as by medical users.

This problem has also been brought to attention by a new law which was passed by the 99th Maine Legislature, promoted by Representative Sumner T. Pike, a former member of the United States Atomic Energy Commission. This refers to Chapter 287, Public Laws of 1959, and is an amendment to Chapter 31 of the Revised Statutes, Section 69, the occupational disease law. Essentially, the law adds to the list of occupational diseases disability due to radioactive properties of substances or exposure to ionizing radiation; also any process involving the use of or direct contact with radiation or radioactive substances or the use of or direct exposure to Roentgen rays (x-rays) or ionizing radiation. It also provides special provisions relating to disability due to radioactive properties. Notwithstanding

any of the provisions of this chapter, the employee need not be exposed to radioactive substances for a period of 60 days or more, as otherwise stated under section 62, and the time for filing claims shall not begin to run in cases of incapacity under section 69, item 17, until the person claiming benefits knew, or by exercise of reasonable diligence should have known of the casual relationship between his employment and his incapacity, or after incapacity, whichever is later. Another law passed in 1959 abolished the use of shoe-fitting machines (Chapter 78 of the P. L. 1959) and read as follows:

"No shoe-fitting device or machine which uses fluoroscopic, x-ray or radiation principles shall be operated or maintained. Whoever violates the provisions of this section shall be punished by a fine of not more than \$100."

Most people are familiar with x-radiation and perhaps have heard or read a great deal concerning its hazards and potential dangers, but in practice these are balanced against the more important benefits which may be obtained from proper uses of this equipment, for example, the monitoring service provided by this Department in the nature of film badges for detecting exposures of technicians and physicians. To indicate how this service grows, when it was started five years ago 350 films were developed. Last year the program had increased to 3400 films per year, with continuous records being kept for over 300 persons.

Consideration of the problem of "fall-out" which is one of the several sources of radiation exposure to the total population results in the following observations:

In small amounts radiation is a phenomenon of nature to which every living creature is subject. Cosmic rays from outer space, gamma radiation from radium and its radioactive decay products in the earth's crust, and alpha, beta and gamma radiation from radium and the radioactive isotopes of hydrogen, carbon and potassium which occur naturally in the human body, combine to give body tissues an average radiation dose equivalent to about one-tenth of a roentgen of x-rays per year. To what extent such small doses of radiation may be harmful, it is not known. Certainly the human race has developed and prospered in an environment of which this has been one of the more stable characteristics.

In much larger amount, radiation results in observable injury to all living things. For example, an exposure to four or five hundreds of roentgens of gamma rays will result in radiation sickness and would, under unfavorable conditions, be fatal. At best, several months would be required for more or less complete recovery from apparent effects. Such recovery does not preclude the possibility of delayed effects such as leukemia or reduction in life span, nor of genetic mutation.

In routine activities involving exposure to radiation, there is concern with doses of radiation so small that, up to the present time, the resultant effects on health



cannot be observed. Nevertheless, it is considered prudent to assume that even the smallest exposures to radiation involve biological hazards which are correspondingly small. However, no one so far as is known proposes that there should be *no* exposure to man-made sources of radiation. Rather, the problem of control of radiation hazards is to limit possible risks to acceptable levels. In principle, this appears to be feasible, since authorities are confident that it is possible to make the resultant hazards as small as one may wish by sufficiently limiting the exposure. While the actual hazards from exposure to low levels of radiation cannot be estimated with precision, it is believed that upper limits which the actual hazards are not likely to exceed can be estimated. The lower limit may, of course, be zero.

Any discussion of the biological consequences of radioactive fallout from nuclear weapons testing must be developed within the context of the present United States National Defense Policy and against a backdrop of what might happen in the event of an all-out nuclear war. Only with these considerations in mind is it possible to evaluate whether or not the weapons testing program with the fallout it has produced is resulting in a net gain for the people of this country and for those of the free world. The problem is made even more difficult because so much of the recent fallout in the North Temperate Zone has originated from tests carried out by the USSR.

An article on "Fallout Radiation" in the September 7 issue of the AMA News provides several interesting quotes:

"A comprehensive Congressional report warned that if frequent nuclear tests are resumed in the future, 'a hazard to the world's population could result.'

"However, the report by the Joint Congressional Atomic Energy Committee held that to date 'man's exposure to fallout radiation is and will be relatively small compared to the "normal background" radiation always existing.'

*"Harmful Effect:* Though generally optimistic about the current level of radiation, the committee cautioned that experts generally agree that 'any dose, however small, produces some biological effect and that this effect is harmful.'

"The report was based on testimony presented at hearings earlier this year before a joint atomic subcommittee headed by Representative Holifield (D. Calif.), and on statements presented by other scientists.

"Should nuclear tests over the next two generations follow the same pattern as in the past five years, the report said, 'the predicted average concentration in bone will be about 48 strontium units' — referring to radioactive strontium-90 which can cause bone cancer and leukemia.

*"Close Enough:* 'This is close enough to the maximum permissible body burden of 67 strontium units

set by the international commission on radiological protection to suggest that a hazard to the world's population could result during this period.'

"The report contended that the administration of the government's research program in the field, particularly in sampling and analysis, 'has not received the high administrative-level support it needs to give it the necessary impetus. . . . Adequate radiation standards must be developed in cooperation with the various federal, state and private agencies.'

Other highlights of the 42-page document:

"No resolution was reached on whether or not a threshold level of radiation exposure exists below which effects such as cancer and leukemia do not result.

"The content of strontium-90 and cesium-137 (which can cause genetic damage) in food has risen since 1957, even more rapidly than the total fallout.

"Radioactive carbon-14 from past weapons tests could constitute a genetic hazard . . . comparable to, and in some estimates, in excess of, the genetic hazard from other fallout isotopes. However, this problem would be spread over some 1000 years due to the long life of carbon-14. The report declared that strontium-90 and cesium-137 'are still considered to present the greatest hazard in world-wide fallout.'

A very interesting popular article on "fallout" by John Pfeiffer published in the October issue of *Coronet*, and prepared for the general public, is so interesting that it is well worth reading. A statement from this article may be of sufficient interest to quote here:

"Preliminary research on past medical records among 300,000 'hot' water drinkers in Illinois shows no differences between them and their neighbors who drink low-radium water. This is one reason why the National Committee on Radiation Protection recently raised the maximum permissible level of strontium-90 in water by 25 per cent for industrial workers having continuous occupational exposure. (To be on the safe side, maximum permissible levels for the general population are one-tenth of the industrial level.)

"Yet even the fact that medical records show no bodily changes doesn't necessarily signify that nothing is happening. For example, if radium caused only one extra bone-cancer death per year among the 300,000 people drinking high-radiation water in Illinois, that might well be a significant increase. (Only about 2,000 persons die of the disease annually in the entire nation.) But because of errors in diagnosis and other reasons, our records are not accurate enough to reveal such a small difference.

"Statisticians estimate that to trace the effects of radium we will have to follow 1,000,000 radium-water drinkers for ten years before any sufficiently large difference turns up — and such a survey is now under way. Since radium resembles strontium-90 in its action, this survey may help us decide what role fallout may play in causing bone cancer, leukemia and other conditions."

In order to be prepared to measure radioactive fallout, both in the air and in rain, it was first necessary to secure special equipment and make determinations of the natural radioactivity of the area which is called "background radiation." This is always present and is part of the environment to which all have become accustomed throughout life. Some of this is from cosmic rays, some from the ground, minerals, and similar sources.

In making studies of the natural radioactivity of public and private water supplies it has been found that there are special areas in Maine that have unusually high activity. Some of them from deep wells in granitic formations have a sufficient amount of radioactive material to be called "hot wells." Present surveys indicate that there is a broad band of such radioactivity extending in a generally northwest to southwest direction from the vicinity of Rumford to the ocean at Brunswick or Georgetown. About 250 wells have been investigated and found to contain higher amounts of radioactivity than the maximum permissible level of 2000 micromicrocuries per liter established by the National Committee on Radiation Protection. A research project was undertaken during the summer in conjunction with the U. S. Public Health Service whereby the services of two graduate students from Georgia Tech. were secured. Samples were collected from as many sources as possible, centering the activities in the vicinity of Raymond but extending out from there to Brunswick on the east, to the west shore of Sebago Lake, and north through Paris to the Rumford and Mexico area. In a few months it is hoped to have a tabulation of their results which will extend the knowledge of the Division relating to this particularly "hot" area. Very few of the deep wells have been in use long enough so that any appreciable effects on the people in the area can be measured. A statistical study, however, has been started to determine, if possible, if there is any unusual evidence of traceable ill effects from these sources. This will be similar to the conditions of water taken from deep wells which are found in sandstone areas in the middle west where a considerable amount of radium-rich water has been in use for about 50 years.

The construction of the submarine "Swordfish" at the Portsmouth shipyard so-called, (in spite of the fact that it is located in Kittery, Maine), starting in January 1956, presented an additional problem. It became necessary to make radioactive determinations on harbor water in the vicinity of the Navy Yard, seaweed and

shellfish, and because investigations of sea water had been limited up to that time it was necessary to develop original techniques for making these determinations. The "Seadragon," started in June 1956, continued the problem, although completion of this submarine was anticipated in December 1959. The "Thresher" started in April 1958 will be completed in December 1960, and the "Abraham Lincoln" started in November 1958 will probably be completed in December 1960. The "Tinosa" was expected to be started in November 1959 for completion in 1962, and the "Jack" to be started in March 1960 for completion in the fall of 1962. This is simply to indicate that the problem is not expected to decrease but rather will require increased activities in connection with these as well as other developments.

By showing these examples, and with a partial review of the literature, the necessity of continuing vigilance on the part of health officials concerning the problems involved by ionizing radiation, and the taking of desirable and suitable measures for maintaining the public safety are indicated.

This paper is intended to indicate, not only some of the present problems, but the fact that these may be expected to increase, and the need for additional monitoring service, investigations and control will be an expanding one which may not be avoided. Somebody will have to be prepared to investigate accidents and supervise the increased beneficial uses of various forms of radiation. Both laboratory facilities and trained personnel must be developed. So far as possible these should be under some trained supervisory control and preferably one which is presently connected with such activities. Means will need to be provided in some manner for carrying on a suitable radiological health program.

Only last month a meeting was held with representatives from the Portsmouth Navy Yard, the New England Interstate Water Pollution Control Commission, and the United States Public Health Service relating to the need for increased activity concerning radioactivity monitoring in connection with activities in the Portsmouth-Kittery Harbor area. The monitoring of shellfish, seaweed and sea water samples, which has been carried on for the past three years, is now considered inadequate and it is suggested that this activity be increased. It is hoped that a project can be developed to which the United States Public Health Service will contribute a portion of the expense for one or more investigators and perhaps some additional instruments.



# Child Welfare Needs And Problems In Maine\*

ALBERT F. HANWELL, M.S.W.\*\*

The 1930 White House Conference on Child Health and Protection gave America the Children's Charter, a statement of the conditions and services which children should have as a natural right and as the first right of citizenship. This statement has stimulated and guided services for children over the past thirty years. On November 20, 1959 the 14th General Assembly of the United Nations unanimously approved a similar statement, called a Declaration of the Rights of the Child. The 1960 White House Conference on Children and Youth had as its theme: "To provide opportunities for children and youth to realize their full potential for a creative life in freedom and dignity." Some 7,000 delegates gathered in Washington to assess the needs of children in today's changing times and to recommend ways of meeting these needs; some 1,600 recommendations will be forthcoming soon.

The natural rights of children, therefore, have been well defined and the needs of children have been currently reviewed. This knowledge in itself is meaningless, however, unless children benefit by it. The responsibility for protecting and assuring the rights of children and thereby meeting their needs rests on their parents and on the community. When either fails to live up to this responsibility, child neglect results. Children are neglected because of parental inadequacies when they are deprived spiritually, emotionally, physically or economically or when they are the victims of abuse and exploitation. In the broader sense they are neglected by community failures and attitudes when they are the victims of prejudice and discrimination, community indifference or a lack of community resources and facilities.

The March 31, 1960 statistical reports of the Department of Mental Health and Corrections show that on that date there were 5,560 inmates in the state institutions, 598 individuals on parole, and 3,382 on probation. Reports of the Division of Vital Statistics show that in 1958 there were 741 illegitimate births in Maine or 3.2 per cent of all births during that year. This rate is higher, incidentally, than the rate of white illegitimate births in most other parts of the country. The latest available figures on divorce show that in 1959, 1,977 divorces were granted in Maine. This is an increase of 5.6 per cent over the number of divorces in 1958.

These figures are only an indication of the number of people in the State with emotional or social mal-

adjustments. For the most part these individuals are the victims of neglect, at least in its broader implications. That they need help from community agencies is without question; but if society is ever to cut through the vicious circle of neglect, delinquency, crime, illegitimacy, mental illness, etc., basic programs serving children must be strengthened. Society has been picking up the pieces, in a sense, and not giving enough attention to prevention of emotional and social ills.

The Division of Child Welfare has a tremendous responsibility assigned by statute in services to children. An indication of the volume and scope of the job is the fact that as of March 31, 1960 there were 3,676 children in this Division's total caseload. Of this number, 2,249 children were under care; 2,087 had been committed by the courts either as neglected or delinquent children or as children involved in divorce actions; 132 had been received under the voluntary application of parents; and 30 had been committed for care pending hearing on neglect complaints. Of the 1,427 children in the Division's service program, most were children referred because of parental neglect and were receiving protective casework service. Also included in this figure were children for whom Maine was providing service for an out-of-state agency; children involved in divorce action for whom social studies were being conducted at the request of the superior courts; and children receiving other varied services. During the last calendar year 79 children under care were legally adopted. This Division has the responsibility for licensing boarding homes for children. As of April 30, 1960, there were 782 licenses in effect and 243 pending applications. It is the responsibility of the Division to license 23 private child-caring agencies and institutions and to administer the special appropriations which some of these agencies and institutions receive.

These figures alone do not give a picture of the total volume of the job. Case workers are actively engaged with the families of children known to the Division for the purpose either of helping to maintain the own home for the child, or working towards the earliest possible return of the child to the family, or of freeing a child for adoption if there is no sound plan within the family. Child Welfare workers spend a good deal of time with foster parents, schools, courts, and other agencies and community people around planning for children. Much time is spent in screening intake, foster home and adoptive home applications, and in recruiting and studying foster homes and adoptive homes.

Reference is now made to some needs and problems in the area of direct services to children. Under statute

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\*\*Abstracted from a talk by Mr. Hanwell before the Bangor Social Worker's Club, May 10, 1960.

the State is authorized to receive children under 18 years of age into foster care on the voluntary application of parent or guardian. Because of insufficient funds, the voluntary intake has necessarily been limited to infants under six months of age for whom adoption is requested. The only children the Division is able to receive for voluntary foster home or group care are children who are without legal settlement in Maine. The cost of care for these children is financed by the Division of General Relief within this Department. The accident of settlement therefore determines whether or not this kind of service can be provided when a child needs it. The number of unsettled children referred is very small, and for all practical purposes, therefore, the voluntary placement program is comprised mainly of infants who are to be placed for adoption.

Concern is felt in the program aimed at the strengthening of family life for the care and protection of children. One of the casework treatment plans which is, of course, needed at times in work with children in their own homes is temporary foster care. When this need is not recognized by parents or when for other reasons removal of parental custody is in the best interests of children, neglect action in court is appropriate. However, when this need is recognized by parents and there is no sound reason why they should be deprived of custody of their children, why in a democratic society should the State not be able to afford them the opportunity of meeting the needs of their children in a voluntary way? Many children needing temporary foster care either must wait until their family situation deteriorates further to the point where legal neglect can be established or are committed to custody through a stretching process of the neglect statute. In either event an injustice is done to these children and to their parents.

In January of this year, through the use of Federal funds which became available for other purposes because of staff vacancies, the voluntary placement program was expanded until the end of the present fiscal year to demonstrate this need. To date 28 children have been received under the expanded program. These are children for whom foster care could not have been provided, at least in a voluntary way.

Services to unmarried mothers, although excellent in some areas of our State, are not readily available or adequate in many other areas. In the State program, unless the unwed mother is under the Division's care, casework help is the only service that can be offered her prior to confinement. The Division would like to be able to offer her as complete a service as can be offered any child under care. It is just as important to consider with the unmarried mother the type of living arrangement best suited to her needs as it is to plan for a child the type of placement which will best meet his needs. It is just as important to help the unmarried mother with planning for her medical, legal, financial, educational, and vocational needs as it is for children under

care. With a full range of services available to the unwed mother in all sections of our State, a forward step would be taken toward the elimination of black and gray market adoptions.

One of the recommendations which is expected to come out of this year's White House Conference is that all states, by legislature, require that adoptive placement be made only by authorized or licensed child welfare agencies except in cases of children to be adopted by step-parents or blood relatives and in these cases there should be an appropriate social study and consent process as a basis for recommendation to the proper court. In this State most adoptions are independent of social agencies. During the last calendar year, out of 916 adoptions only 177 were made by public and private agencies. In the opinion of many, Maine's adoption statute is very loose and does not offer sufficient protections to the child, the adoptive couple, and the natural parent or parents. It is perfectly possible, for example, for a couple to come in from out of state and adopt a child in one day. If it is not possible to realize passage of such legislation in the near future, it is hoped that at least the State's adoption law can be strengthened to the point of requiring a mandatory social investigation on every adoption petition. The probate judges then would have before them impartial, complete, and factual reports on which to base their decisions similar to the reports presented to the superior court justices in divorce cases involving custody of children.

In its recent publication on "Adoption of Children," the American Academy of Pediatrics states:

"Adoption requires the skills, time, and co-ordinated efforts of persons of many professions, particularly the social worker, physician, and lawyer. It is not realistic to believe that any one person, whatever his interest, capabilities and profession, can adequately conduct the entire procedure alone.

"The physician has both direct and indirect responsibilities in adoption. The direct responsibilities revolve around service to the three parties concerned, the natural parents, the child and the prospective adoptive couple. The indirect responsibilities are those rendered as a consultant to, or later as a member of, a social agency practicing adoption, as a member of a hospital staff, as an educator, and as a citizen."

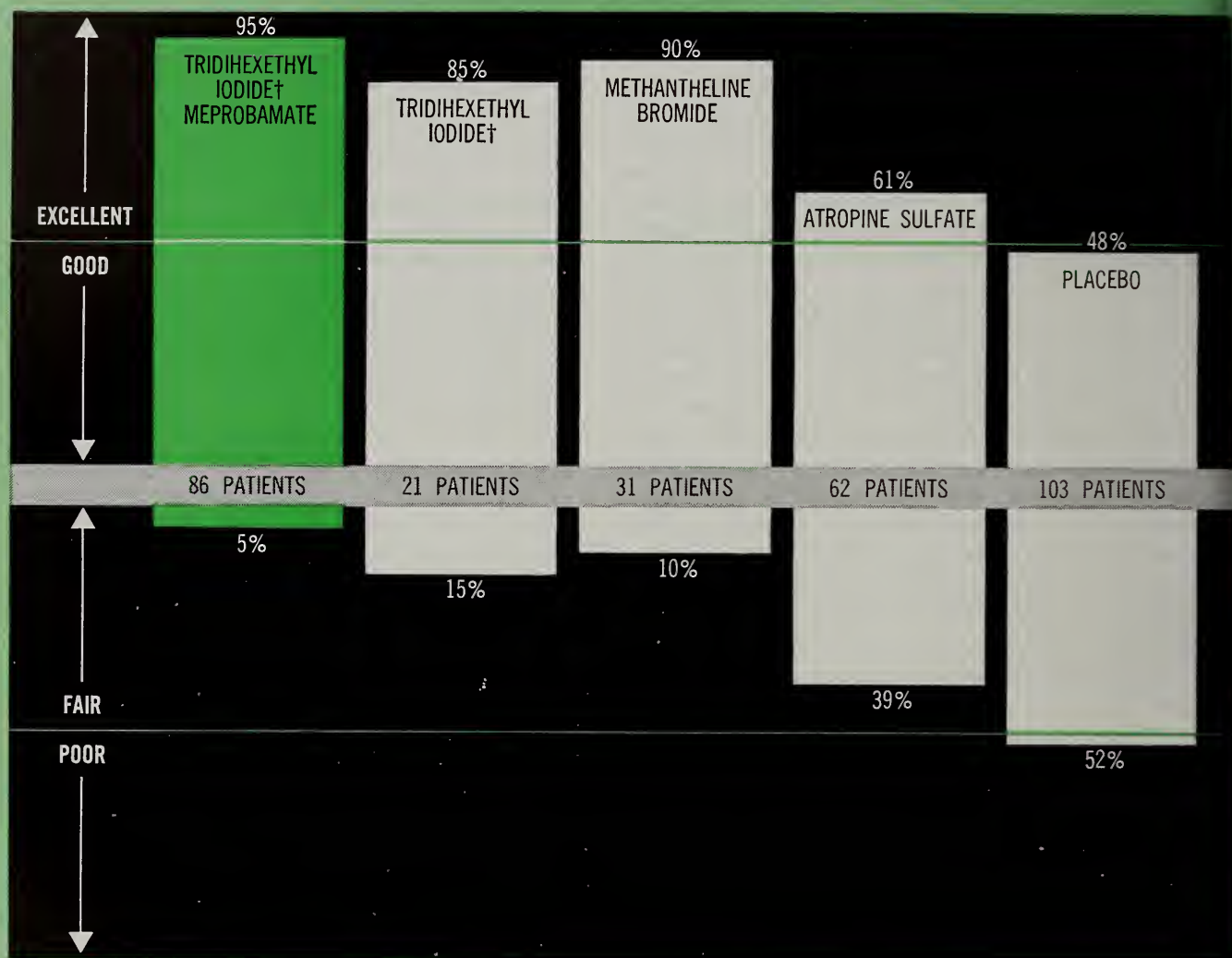
Maine's neglect statute also needs revision. Under the allegations of the present law, it is very difficult to establish emotional neglect. A child who is emotionally deprived is not able to develop into a healthy personality and needs the protection of law when his parents are not able or willing to help meet these needs. Although improved socio-economic conditions have helped to decrease physical neglect, it has helped to increase emotional neglect. The existing neglect statute gives the State full parental rights over children committed as neglected. These are actually more rights

*Continued on Page 398*



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SIDE EFFECTS	TRIDIHEXETHYL IODIDE† MEPROBAMATE	TRIDIHEXETHYL IODIDE†	METHANTHELINE BROMIDE	ATROPINE SULFATE	PLACEBO
DRY MOUTH	1%	5%	72%	46%	5%
STOMATITIS	1%	0%	28%	14%	0%
VISUAL DISTURBANCES	0%	0%	50%	34%	1%
URINARY RETENTION	0%	0%	18%	11%	1%
DROWSINESS	20%	0%	0%	0%	0%
COMPLICATIONS OR SURGERY					
HEMORRHAGE	0%	9%	3%	9%	10%
PERFORATION	0%	0%	0%	6%	0%
OPERATION	0%	5%	5%	14%	2%
RECURRENCES					
NONE	28%	23%	25%	17%	26%
FEWER AND Milder	67%	62%	52%	37%	24%
SAME OR MORE	5%	15%	23%	46%	50%

\*Atwater, J. S., and Carson, J. M.: Therapeutic Principles in Management of Peptic Ulcer. *Am. J. Digest. Dis.* 4:1055 (Dec.) 1959.

†PATHILON is now supplied as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could distort the results of certain thyroid function tests.



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than are needed to carry out the State's responsibilities to these children. It seems reasonable to assume that the more rights and responsibilities that can safely be left with parents, the greater the opportunities would be to help parents function more adequately in their parental role and move toward the objective of re-establishing a home for their children. If the neglect statute is weakened in this respect, however, it would be essential that provision also be made for termination of parental rights when this would be in the best interests of the child. Such a provision would allow a child needing adoptive planning to be freed for adoption when parents are unwilling or unavailable to give consent.

The Division's Court Project in Cumberland County has been in operation almost two years now. This is a special staff unit working with the Cumberland County Superior Court in divorce cases involving children. There is a real need to expand the Court Project to all other counties in our State. This will not be possible, however, until the necessary staff is acquired.

There is certainly a need for more and varied community resources to help prevent family breakdown such as homemaker service, day foster care, day group care, more family agencies, more child guidance clinics, etc.; a need recognized by all interested in welfare of children. There is a need to develop methods of detecting emotional disturbances in children at an earlier stage so that social agencies can more effectively do a preventive job. Many children are severely neglected before they are referred and work with such families is no brief or easy task.

**... there is a need for better  
community planning for children  
both on an area and on a state-wide  
basis so that gaps in services to children  
can eventually be closed.**

Finally, there is a need for better community planning for children both on an area and on a state-wide basis so that gaps in services to children can eventually be closed. Public and private agencies and institutions have a joint responsibility in community planning. It behooves all to scrutinize programs continually to be sure that the services being rendered are meeting the needs of children today. Moreover, programs should be seen in relation to overall planning for services to children. There is only so much public money and so much private money available for child welfare services. The most efficient use of these funds is of paramount importance.

The child welfare needs and problems in Maine are many. More staff is needed, expanded programs, new programs, a revised statute, and sounder community planning. Meeting these needs is a formidable task but a task which must be undertaken if the neglected children of today are not to become the inadequate parents of tomorrow. Prevention is the real challenge to be faced in child welfare today. Prevention will not be effective, however, until basic programs serving children are so strengthened that the fundamental objectives of these programs can be realized.



# Is There Need For A State Residential Treatment Center For Emotionally Disturbed Children?

MARGARET R. SIMPSON, M.D.\*

From July 1, 1958 through June 30, 1959, the Division of Mental Health saw 404 new cases under the age of 18 years in clinics throughout the State. Thirty-seven of these — 10.9% — were found to be disturbed to the extent that care in a residential treatment center or institutional placement was recommended.

All the children were referred because of multiple problems. Certain combinations of disordered behavior seemed to stand out —

1. Bedwetting, fire setting, destructiveness
2. Poor school work, tantrums, withdrawal from social contacts
3. Overactivity, aggressiveness
4. Fearfulness, bodily complaints, moodiness
5. Stealing, truancy, poor school progress
6. Tantrums, poor school progress, general immaturity

Among the thirty-seven children, the complaints as given in the history occurred as follows:

Poor school work . . . . .	17
Tantrums . . . . .	9
Stealing . . . . .	9
Immaturity . . . . .	8
Abusive to other children . . . . .	7
Bedwetting . . . . .	6
Hyperactivity . . . . .	6
Fire setting . . . . .	6
Aggressiveness . . . . .	5
Sexual activity . . . . .	5

Other behavior disorders included destructiveness, truancy, masturbation, soiling and cruelty to animals.

Hallucinations were described by the family in three cases. Depression, with suicidal thoughts, was given as a chief complaint in three cases. The occurrence of seizures presented a problem in one case.

A breakdown according to age group and sex showed the following:

	0-5 years	5-9 years	10-13 years	14-17 years	Total
Boys	0	12	11	7	30
Girls	0	2	3	2	7
Total	0	14	14	9	37

\*Director of the Division of Mental Health, Department of Health and Welfare, Augusta, Maine.

This followed the usual pattern that has been found in most psychiatric clinics for children. Boys outnumbered girls in a ratio of 4:1.

A breakdown of the sources of referral showed —

Source of Referral	No. of Cases
School . . . . .	11
Physician . . . . .	7
Division of Child Welfare . . . . .	5
Public Health Nurse . . . . .	4
Aid to Dependent Children Program . . . . .	4
Services for Crippled Children . . . . .	3
Family . . . . .	2
Court . . . . .	1

Diagnosis of the thirty-seven cases fell in the following categories:

Chronic Brain Syndrome with Other Intracranial Infection — Mumps Meningitis	1
Chronic Brain Syndrome of Unknown Cause	1
Chronic Brain Syndrome with Convulsive Disorder	3
Passive Aggressive Personality	13
Adjustment Reaction of Childhood	5
Schizoid Personality	6
Schizophrenic Reaction	
Hebephrenic Type	2
Schizo-affective Type	1
Childhood Type	2
Sociopathic Personality Disorder —	
Anti-Social Reaction	2
Mental Deficiency, with Schizophrenic Reaction	1

Those with a diagnosis of Schizophrenic Reaction and Mental Deficiency with Schizophrenic Reaction were considered psychotic and in need of institutional care. It was felt that the other thirty-one cases could be handled in a residential treatment center. Of the thirteen cases showing a passive aggressive type of personality, nine (all boys) came from homes in which there had been no father or father figure for a significant period of time.

The following short case summaries show the different types of disordered behavior:

Case 1 — An 8½ year old boy whose mother complains that he steals, truants from schools and is completely unmanageable. Other children in this family have required institutional care because of disordered behavior. He has at least dull normal intelligence. He is moderately overactive during



examination, is uncooperative and shows no desire to please. He brags about his exploits and chews on cigarette butts he has in his pocket. He is immature emotionally. He has never had or learned any controls. He can rationalize his behavior so that it seems warranted and reasonable to him.

Diagnosis — Sociopathic Personality Disturbance, Anti-Social Reaction. He is in need of institutional placement because of his disordered behavior, but there is no facility available.

Case 2 — A 14½ year old boy referred by the school because of poor school progress and excessive masturbation. He comes from a broken home; the father has been in a mental hospital for some years and the mother has not been in the picture for eleven years. He is in the seventh grade but is not working at that level. The foster mother says he is as pleased with low marks as he is with higher ones. He masturbates openly and is unconcerned about it. He often sits and stares, does not know what goes on around him. During examination he appears flattened emotionally, is uninterested in the procedure. Intellectually he functions at the low borderline level, with a mental age of 10 years.

Diagnosis — Schizoid Personality. The boy needs to be in a residential treatment center where he can receive help in both school achievement and personality development.

Case 3 — A 14 year 10 months old boy referred because of behavior. He has epilepsy and attends a clinic for treatment. The mother has always rejected him because she wanted a girl. The home is a broken one, the father not living with the family but visiting the children frequently. In 1953 he had a severe accident. Following this he became enuretic, did poorly in school and was ugly toward other children. The mother feels he now acts like a seven year old. In school he puts his head on his desk, moans and groans. He is in the sixth grade, but not doing work at that level. Intellectually he functions in the dull normal range, with a mental age of 12 years. He tends to misinterpret many of his daily living situations and has extremely explosive feelings which are tenuously held in check. He is very dependent, with little self-confidence. He is considered to be extremely sick emotionally and in need of care in a residential center for emotionally disturbed children.

Diagnosis — Chronic Brain Syndrome Associated with Convulsive Disorder, with Behavioral Reaction.

Case 4 — A 6 year 3 months old boy referred by a physician because of disordered behavior — stealing, playing with fire, abusing other children, disturbing the class in school. The mother was unable to control him. In the waiting room — she held him while he punched and poked at her. He soils but does not wet. There is much friction between the mother and father in regard to controlling the children. There is little consistent direction from either parent. During the examination this boy is extremely hyperactive, kicking, yanking and pulling at his mother or walking aimlessly around the room. Intellectually he functions at a borderline level with a mental age of 4½ years. Because of his distractibility and overactivity, this mental age is considered to be a minimal estimate. This boy shows a severe behavior problem and it is felt that he needs treatment in a residential setting. A sister has been seen by the clinic and

presents a somewhat less severe behavior problem. The family needs much help from a family counselling agency.

Diagnosis — Adjustment Reaction of Childhood, Conduct Disorder.

Case 5 — An 11½ year old boy referred from a foster home because of temper tantrums, hyperactivity, destructiveness and aggressiveness. He was committed to the Division of Child Welfare at 1½ years of age. He was in numerous foster homes and was considered somewhat slow in learning to walk and talk. From three months to twenty-two months he was in a home with several other babies, all of whom were kept in their cribs, with little activity allowed. He was the least preferred of all the babies. He always rebelled at routine and confinement. He has been in the same foster home since 1951 and the foster parents have been able to accept him as part of the family. A year ago stealing was a problem but it was stopped. He has been in grade five although reading and spelling are not up to grade level. He destroys his own belongings, slashes holes in the curtains and pounds holes in the floor. The boy appeared immature for his age. Conversation is like that of a younger child. He can function intellectually at an average level, but is not doing so in school. Personality studies show him to be a passive aggressive type of personality with strong dependency needs that are not being met. He is in need of treatment in a residential center for emotionally disturbed children.

Diagnosis — Passive Aggressive Personality.

Case 6 — A 10 year 2 months old boy referred by the school because of poor school work, nervousness and general immaturity. Both parents have had mental illnesses diagnosed as schizophrenic reactions. He has temper tantrums, has never spoken clearly. The family has been told that he is retarded and should be in a special class. He makes believe objects are people and talks to them. The mother noted that he was different from other children at the age of two years. During the examination his speech consists of grunts, barking sounds and a jargon. He talks and laughs to himself. Intellectually he functions in the dull normal range although his performance is erratic. His attention wanes rapidly and he becomes preoccupied. His writing is a conglomeration of letters, with no word formations. This boy is considered to be mentally ill and in need of institutional treatment.

Diagnosis — Schizophrenic Reaction, Childhood Type.

Residential Treatment Centers for Emotionally Disturbed Children vary in size from a capacity of 12 children to a capacity of 444, according to a listing by the Children's Bureau in 1952. They are operated by voluntary agencies, foundations or from tax funds. The usual capacity appears to be between 20 and 60, with a few larger centers taking over 100 children.

It appears from the findings that a State Residential Treatment Center for Emotionally Disturbed Children, with a capacity for at least 40 children, would fulfill a need now being only partially met by a voluntary agency operating such a treatment center in this State.

# The Federal Hospital And Medical Facilities Survey And Construction Act (Hill-Burton)

WOODROW E. PAGE\*

The Federal Hospital and Medical Facilities Survey and Construction Act (Hill-Burton Act) provides for the continuing survey of existing facilities, programming of construction on a priority basis and financial assistance for the construction of facilities in accordance with a comprehensive State Plan. This Plan must be revised each year and is subject to approval first by the State Hospital Advisory Council which is appointed by the Governor and then by the U. S. Public Health Service.

The Department of Health and Welfare is designated by the Federal Government as the sole agency to administer the Program on the basis of plans and policies approved by the Advisory Council. Each Council member holds office for a four year term and their selection is representative of the several interests involved in hospital facilities construction and utilization. Dr. Frederick T. Hill of Waterville has been Chairman of the Council since its first year of operation in 1948.

Historically, the Hospital Survey and Construction Act was enacted in August 1946 as Public Law 725 of the 79th Congress. Part "C" of the Act provided grants of funds to the States for the construction and equipment of hospitals with the provision that the States first survey all of their hospital structures and set up a priority system of need for new construction in accordance with the Federal requirements. Funds for construction were first made available in fiscal year 1948 for the following types of hospitals: general, tuberculosis, chronic, and mental.

In 1954 the Act was amended by Public Law 482 of the 83rd Congress which became Part "G" of the Act. This provided separate allotments of funds for diagnostic and treatment centers, chronic disease facilities, nursing homes and rehabilitation facilities.

Part "C" funds for hospitals in Maine during the 13-year period total \$8,946,963. These funds have been used on 29 "C" projects having total costs of \$20,000,000. The average allotment of "C" funds has been approximately \$690,000 per year.

Part "G" funds for medical facilities during the six years that such funds have been available total \$1,871,454. These funds have been expended on 14 "G" projects having total costs of \$3,000,000. The average allotment of "G" funds per year has been about \$324,000 apportioned as follows: \$100,000 for diagnostic and

\*Director, Hospital Facilities Program, Department of Health and Welfare, Augusta, Maine.

**The number of beds that have been added under the Program are as follows:**

**65 chronic; 1,133 general; 16 mental and 76 nursing home or a total of 1,290 beds.**

treatment centers; \$100,000 for chronic disease facilities; \$55,955 for nursing homes and \$55,955 for rehabilitation facilities.

The number of beds that have been added under the Program are as follows: 65 chronic; 1,133 general; 16 mental and 76 nursing home or a total of 1,290 beds.

Effective July 1, 1961 an applicant for funds under the Program will need to demonstrate that the sponsor's local share of the required project funds are already in hand at the time of application. It is felt that this change will result in better project planning on the part of the sponsor with less delay in making use of Federal funds.

For long range planning purposes the type of construction, arrangement and location of structures containing the various types of medical facilities contemplated under the Act, rather than the quality of medical services offered are the determining factors in the classification of these facilities as acceptable (suitable) or non-acceptable (unsuitable). Ideally all of the structures should be of first class, fire resistive construction of modern design and proper location to provide the optimum of safety and facilities for the best medical care of the people of the State. Realistically the present structures for hospitals and medical facilities are far from the ideal. For example, over 30% of the general hospital structures and nearly 100% of the nursing home structures are converted wooden dwellings.

Construction programming has been based on the needs of hospital areas and particular services rather than of any intent to make equalized funds available to each hospital. Furthermore, there has been a continuous intent to stimulate thinking in terms of regionalization and coordination of facilities rather than competition among them. These concepts have been constantly stressed to interested persons and, hopefully, may have prevented some unwise expenditures that might otherwise have been made in the cause of community pride.

In June of this year, proposed amendments to Title



VI of the Public Health Service Act (Hill-Burton Act) were introduced into Congress. Provisions would be made to (1) permit and encourage States to give more attention and (in exceptional cases) higher priority to projects for the modernization of hospitals; (2) authorize increased Federal participation in research and experimentation for more effective use of the services and resources of hospitals and other medical care facilities; (3) place greater emphasis on the construction of special facilities for the care of long-term patients by consolidating the two present categories of chronic disease hospitals and nursing homes; and (4) make available grants to regional, area and local planning groups to coordinate the planning of hospitals and other medical facilities and services.

Financing of these proposed amendments calls for a re-distribution, but no increase in existing appropriations authorization for construction grants. The current \$150,000,000 authorization for hospitals would continue during each of the fiscal years 1961 through 1964. The \$40,000,000 annual authorization for long-term care facilities would replace the existing \$20,000,000 authorization for chronic disease facilities and \$10,000,000 for grants for nursing homes, and the existing \$20,000,000 annual authorization for grants for the construction of diagnostic and treatment centers would be reduced to \$10,000,000.

At the time this paper was prepared (June 15, 1960) consideration was being given by the Congress to certain proposals that would have an effect on the serious problem of nursing home care in Maine as well as in the other States. The President had submitted to the Congress an amended budget request to increase by \$2,000,000 the 1961 appropriation to the States, the

**... high quality nursing home care  
is a particularly important community  
resource in the case of the aged  
and other chronically ill persons.**

purpose being to initiate and expand programs to improve patient care and related services in nursing homes. The proposal stressed that many of the nursing home beds in the country are seriously below desirable standards with many providing only domiciliary care rather than "skilled nursing care."

The Secretary of Health, Education, and Welfare, Arthur S. Flemming, emphasized certain facts previously published in the *Journal of the Maine Medical Association*; namely, that high quality nursing home care is a particularly important community resource in the case of the aged and other chronically ill persons. He added that when nursing homes are brought up to standards that will qualify them for classification as skilled nursing homes, provision would be made for a type of long-term care facility that could substantially relieve requirements for the more costly hospital beds.

Four years ago a *Journal*\* article pointed out that in planning nursing home construction it seemed wisest to consider them as related to general hospitals and in this way gain the advantages of patient exchange, staff training, criteria of standards of care and the maximum utilization of both facilities with resulting economies and improved patient service.

\*The Journal of the Maine Medical Association, March 1956 issue.



SPECIAL ARTICLE

The State Program For Hospital Care

JOHN M. MCGOWAN, *Chairman*

Special Legislative Committee The Maine Hospital Association

There are two programs under which there is State of Maine participation in medical hospital care costs.

The first, "State Aid," is given to those who are deemed by the State to be financially unable to pay for hospital care. In this group sixty-four Maine hospitals, in the 1959-60 year, rendered about 120,000 days of care for which the State reimbursed the hospitals about \$835,000 or about \$7.00 per day for the care that had average costs to the hospitals of about \$25.00 per day.

The second program covers the recipients of Old Age Assurance, Aid to Dependent Children, Aid to the Blind and Aid to the Disabled. This is the Federal sharing program. This group, called the "Categories," required about 71,000 days of care and for this care the hospitals were paid about \$1,050,000 or about \$14.80 per day compared with the \$25.00 per day costs.

THE PROBLEM OF THE HOSPITALS

These two State programs add up as follows, in round figures:

Costs to the Hospitals	\$4,775,000	100%
Paid for by the State	1,875,000	40%
Difference	\$2,900,000	60%

The average cost per patient day of about \$25.00 included not only the room, food and care costs, but also the other required services such as x-rays, laboratory, drugs, medicine, etc. The average reimbursement for both programs was about \$9.80 per day with the difference, more than \$15.00 per day, reflected in either or both of increasing hospital deficits or increasing charges to the paying patients.

THE SOLUTION

A solution to the problem would seem to be based on the answer to this question — "Is it just and fair to expect the paying patient to be charged increasing costs to offset hospital losses in caring for State patients in private institutions?"

If the answer is negative then a solution could be worked out whereby all taxpayers share at least a part of these losses in this state welfare program just as their

tax payments finance substantially all of the costs of the other state welfare services.

The attached tabulations offer this program:

1. Provide, by "State Aid" appropriation, sufficient funds to reimburse hospitals for whichever is the lower of \$20.00 per day or the costs to the individual hospital with "costs" being subject to careful State audit.
2. Provide, by appropriation, sufficient matching funds to provide that OOA, ADC, AB & AD, the "Categories," have reimbursement of whichever is lower of \$25.00 per day or the costs to the individual hospital.

Without exact reference to whatever may be the Federal funds available in the recent Federal enactment related to hospital care, such a solution, subject to careful check by State finance people, would seem to require about \$2,000,000 in State funds for the State Aid group, an increase of a little less than \$1,200,000 over current appropriations. For the "Categories," assuming Federal sharing on a 60-40 basis, about \$300,000 in additional State funds would be required. Still subject to careful State House financial check, this is the summary that would reduce the hospital losses from about \$2,900,000 to about \$900,000, with the tabulation in round figures:

	State & Federal Costs at Current Levels	State & Federal Costs at Suggested Levels	Increase
STATE			
"State Aid"	\$ 835,000	\$2,000,000	\$1,165,000
"Categories"	420,000	745,000	325,000
FEDERAL	630,000	1,115,000	485,000
	\$1,885,000	\$3,860,000	\$1,975,000

The detail, by counties and by individual hospitals, is on the following pages. This summary sheet and the following material isn't offered as an exact audited financial statement. It seeks only to describe the problem and offer a solution. If there are errors in a few of the many, many, calculations the writer hopes that they are minor and of little consequence in a fair and just consideration of the problem by the 1961 Maine Legislature.



## THE STATE PROGRAM FOR HOSPITAL CARE — DETAIL BY COUNTIES AND INDIVIDUAL HOSPITALS

		Total Hospital Cost Per Patient Day	Days of Care State Aid and OAA, ADC, Etc.	Actual Cost to Hospital	Payment from State	Loss to Hospital	State Payments Would Have Been	Hospital Loss Would Have Been
If State Reimbursement had been based on the lower of either costs of \$20.00 per day for State Aid and \$25.00 per day for OOA, ADC, etc.								
<b>CUMBERLAND COUNTY</b>								
Brunswick Com.	Brunswick	\$24.06	1,037	\$ 24,950	\$ 10,992	\$ 13,958	\$ 22,693	\$ 2,257
Maine Med. Ctr.	Portland	33.29	24,578	818,202	231,056	587,146	527,861	290,341
Mercy Hospital	Portland	32.61	7,355	239,847	67,550	172,297	157,220	82,627
Northern Cumberland	Bridgton	22.92	583	13,362	6,509	6,862	12,513	849
Osteopathic of Me.	Portland	30.37	1,057	32,101	11,347	20,754	23,701	8,400
Parkview Memorial	Brunswick	31.46	243	7,645	3,263	4,382	5,835	1,810
Portland City		13.66	20,840	284,674	164,162	120,512	284,674	—
Westbrook		11.70	865	10,121	8,336	1,785	10,121	—
<b>Total Cumberland County</b>			56,558	\$1,430,902	\$ 503,206	\$ 927,696	\$1,044,618	\$ 386,284
<b>OXFORD COUNTY</b>								
Rumford Com.		\$26.46	5,121	\$ 135,502	\$ 47,143	\$ 88,359	\$ 109,385	\$ 26,117
Stevens Mem.	Norway	26.55	619	16,434	6,863	9,571	14,000	2,434
<b>Total Oxford County</b>			5,740	\$ 151,936	\$ 54,006	\$ 97,930	\$ 123,385	\$ 28,551
<b>SAGadahoc COUNTY</b>								
Bath Memorial		\$24.10	3,218	\$ 77,554	\$ 29,756	\$ 47,798	\$ 67,985	\$ 9,569
Hyde Mem. Rehab.	Bath	18.69	1,844	34,464	16,722	17,742	34,464	—
<b>Total Sagadahoc County</b>			5,062	\$ 112,018	\$ 46,478	\$ 65,540	\$ 102,449	\$ 9,569
<b>YORK COUNTY</b>								
Buxton-Hollis	Bar Mills	\$17.77	482	\$ 8,565	\$ 3,862	\$ 4,703	\$ 8,565	\$ —
Goodall-Henrietta	Sanford	28.61	1,336	38,223	14,122	24,101	29,735	8,488
Harbor Hospital	York Harbor	37.32	1,617	60,346	13,140	47,206	33,369	26,977
Notre Dame	Biddeford	26.01	3,333	66,691	27,559	59,132	69,575	17,116
Saco Osteopathic	Saco	26.31	441	11,603	5,756	5,847	10,520	1,083
St. Andre's Home	Biddeford	31.16	198	6,170	1,523	4,647	5,061	1,109
Trull Hosp.	Biddeford	20.94	2,938	61,522	25,133	36,389	59,318	2,204
Webber Hosp.	Biddeford	29.01	2,558	74,208	26,222	47,986	56,321	17,887
York Harbor	York Village	21.84	377	8,234	4,467	3,767	7,975	259
<b>Total York County</b>			13,280	\$ 355,562	\$ 121,784	\$ 233,778	\$ 280,439	\$ 75,123
<b>FRANKLIN COUNTY</b>								
Franklin City Mem.	Farmington	\$22.28	590	\$ 13,145	\$ 8,855	\$ 4,290	\$ 13,145	—
<b>Total Franklin County</b>			590	\$ 13,145	\$ 8,855	\$ 4,290	\$ 13,145	—
<b>KENNEBEC COUNTY</b>								
Augusta General	Augusta	\$24.00	3,532	\$ 84,768	\$ 35,454	\$ 49,314	\$ 75,912	\$ 8,856
Gardiner		22.00	2,278	50,116	23,580	26,536	47,492	2,624
Sisters Hosp.	Waterville	24.30	2,540	61,722	28,061	33,661	56,343	5,379
Thayer Hosp.	Waterville	28.53	5,257	149,982	47,004	102,978	112,110	37,872
Waterville Osteopathic		24.88	684	17,018	8,653	8,365	16,096	922
<b>Total Kennebec County</b>			14,291	\$ 363,606	\$ 142,752	\$ 220,854	\$ 307,953	\$ 55,653
<b>KNOX COUNTY</b>								
Camden Com.	Camden	\$24.48	258	\$ 6,316	\$ 3,678	\$ 2,638	\$ 6,213	\$ 103
Knox County Gen.	Rockland	28.92	2,105	60,877	23,968	36,909	47,725	12,952
<b>Total Knox County</b>			2,363	\$ 67,193	\$ 27,646	\$ 39,547	\$ 53,938	\$ 13,055
<b>LINCOLN COUNTY</b>								
Miles Memorial	Damariscotta	\$24.22	779	\$ 18,867	\$ 8,951	\$ 9,916	\$ 18,023	\$ 844
St. Andrews	Boothbay Hbr.	31.96	416	13,295	4,400	8,895	9,300	3,995
<b>Total Lincoln County</b>			1,195	\$ 32,162	\$ 13,351	\$ 18,811	\$ 27,323	\$ 4,839
<b>ANDROSCOGGIN COUNTY</b>								
Central Me. Gen.	Lewiston	\$25.86	16,599	\$ 429,250	\$ 152,770	\$ 276,480	\$ 357,270	\$ 71,980
St. Mary's Gen.	Lewiston	29.39	7,966	234,121	75,939	158,182	171,070	63,051
<b>Total Androscoggin County</b>			24,565	\$ 663,371	\$ 228,709	\$ 434,662	\$ 528,340	\$ 135,031
<b>SOMERSET COUNTY</b>								
Fairview	Skowhegan	\$24.09	758	\$ 18,260	\$ 10,249	\$ 8,011	\$ 17,712	\$ 548
Murtha	Jackman	15.18	233	3,537	3,510	27	3,537	—
Redington Mem.	Skowhegan	21.26	686	14,584	9,651	4,933	14,488	96
Scott-Webb Mem.	Hartland	21.20	2,974	63,049	30,325	32,724	60,879	2,170
<b>Total Somerset County</b>			4,651	\$ 99,430	\$ 53,735	\$ 45,695	\$ 96,616	\$ 2,814

		If State Reimbursement had been based on the lower of either costs of \$20.00 per day for State Aid and \$25.00 per day for OOA, ADC, etc.						
		Total Hospital Cost Per Patient Day	Days of Care State Aid and OOA, ADC, Etc.	Actual Cost to Hospital	Payment from State	Loss to Hospital	State Payments Would Have Been	Hospital Loss Would Have Been
WALDO COUNTY								
Bradbury Mem.	Belfast	\$15.95	207	\$ 3,302	\$ 3,032	\$ 270	\$ 3,302	\$ —
Waldo County Gen.	Belfast	21.93	3,926	86,097	44,497	41,600	82,513	3,584
Total Waldo County			4,133	\$ 89,399	\$ 47,529	\$ 41,870	\$ 85,815	\$ 3,584
AROOSTOOK COUNTY								
Aroostook General	Houlton	\$19.20	2,399	\$ 46,060	\$ 23,010	\$ 23,050	\$ 46,060	\$ —
Cary Memorial	Caribou	27.56	3,291	90,700	36,833	53,867	74,450	16,250
Community General	Ft. Fairfield	23.40	3,690	86,346	34,540	51,826	77,591	8,755
Arthur R. Gould	Presque Isle	29.23	3,041	88,888	30,355	58,533	66,339	22,549
Madigan Mem.	Houlton	20.15	2,448	49,327	30,277	19,050	49,208	119
Milliken Mem.	I. Falls	15.98	1,392	22,244	19,854	2,390	22,244	—
Northern Me. Gen.	Eagle Lake	14.96	3,402	50,894	41,311	9,583	50,894	—
People's Benevolent	F. Kent	18.92	6,106	115,526	70,026	45,500	115,526	—
Total Aroostook County			25,769	\$ 549,985	\$ 286,206	\$ 263,799	\$ 502,312	\$ 47,673
WASHINGTON COUNTY								
Calais Regional		\$29.25	2,497	\$ 73,037	\$ 29,435	\$ 43,602	\$ 57,480	\$ 15,557
Eastport Memorial		17.53	1,990	34,984	19,380	15,604	34,984	—
Total Washington County			4,487	\$ 108,021	\$ 48,815	\$ 59,206	\$ 92,464	\$ 15,557
HANCOCK COUNTY								
Bluehill Mem.	Blue Hill	\$31.95	203	\$ 6,486	\$ 2,618	\$ 3,868	\$ 4,820	\$ 1,666
Coastal Mem.	Ellsworth	37.86	1,995	75,531	22,560	52,971	45,190	30,341
Mt. Desert Island	Bar Harbor	27.05	1,405	38,005	15,667	22,338	31,820	6,185
Castine Com.	Castine	15.29	236	3,608	3,550	58	3,608	—
Total Hancock County			3,839	\$ 123,630	\$ 44,395	\$ 79,235	\$ 85,438	\$ 38,192
PENOBSCOT COUNTY								
Bangor Osteopathic	Bangor	\$31.07	704	\$ 21,873	\$ 10,308	\$ 11,565	\$ 17,450	\$ 4,423
Eastern Me. Gen.	Bangor	26.80	18,523	496,416	179,134	317,282	403,564	92,852
Lincoln Hospital	Lincoln	17.50	807	14,123	8,558	5,565	14,123	—
Millinocket Com.	Millinocket	34.27	416	14,256	1,829	12,427	9,260	4,996
Plummer Mem.	Dexter	19.29	1,325	25,550	14,789	10,770	25,559	—
St. Joseph's	Bangor	19.63	83	1,629	1,238	391	1,629	—
Stinson Private	Bangor	20.12	432	8,692	6,295	2,397	8,689	3
Workman Hosp.	Lincoln	15.15	630	9,545	9,218	327	9,545	—
Total Penobscot County			22,920	\$ 592,093	\$ 231,369	\$ 360,724	\$ 489,819	\$ 102,274
PISCATAQUIS COUNTY								
Chas. A. Dean	Greenville	\$24.40	163	\$ 3,977	\$ 2,443	\$ 1,534	\$ 3,977	—
Gallant	Milo	15.25	301	4,590	4,516	74	4,590	—
Mayo Mem.	Dover	20.70	655	13,559	9,826	3,733	13,559	—
Total Piscataquis County			1,119	\$ 22,126	\$ 16,785	\$ 5,341	\$ 22,126	—
Total								
Aroostook County		\$21.35	25,769	\$ 549,985	\$ 286,206	\$ 263,799	\$ 502,312	\$ 47,673
Washington County		24.08	4,487	108,021	48,815	59,206	92,464	15,557
Hancock County		32.20	3,839	123,630	44,395	79,235	85,438	38,192
Penobscot County		25.83	22,920	592,093	231,369	360,724	489,819	102,274
Piscataquis County		19.77	1,119	22,126	16,785	5,341	22,126	—
Somerset County		21.38	4,651	99,430	53,735	45,695	96,616	2,814
Waldo County		21.67	4,133	89,399	47,529	41,870	85,815	3,584
Kennebec County		25.44	14,291	363,606	142,752	220,854	307,953	55,653
Lincoln County		26.91	1,195	32,162	13,351	18,811	27,323	4,839
Knox County		28.44	2,363	67,193	27,646	39,547	53,938	13,055
Sagadahoc County		22.13	5,062	112,018	46,478	65,540	102,449	9,569
Franklin County		22.28	590	13,145	8,855	4,290	13,145	—
Androscoggin County		27.00	24,565	663,371	228,709	434,662	528,340	135,031
Oxford County		26.47	5,740	151,936	54,006	97,930	123,385	28,551
Cumberland County		25.30	56,558	1,430,902	503,206	927,696	1,044,618	386,284
York County		26.77	13,280	355,562	121,784	233,778	280,439	75,123
Total		\$25.05	190,562	\$4,774,579	\$1,575,621	\$2,898,978	\$3,856,180	\$ 918,199

TEN MAINE HOSPITALS TOTALING OVER 60% OF "WELFARE" DAYS  
DAYS OF CARE

Hospital		State Aid	OOA, ADC, Etc.	Total	Cumulative Total
Maine Medical Ctr.	Portland	17,318	7,260	24,578	24,578
Portland City	Portland	17,925	2,915	20,840	45,418
Eastern Me. General	Bangor	11,902	6,621	18,523	63,941
Central Maine General	Lewiston	11,541	5,058	16,599	80,540
St. Mary's General	Lewiston	5,616	2,350	7,966	88,506
Mercy Hospital	Portland	5,331	2,024	7,355	95,861
People's Benevolent	Ft. Kent	2,641	3,465	6,106	101,967
Thayer Hospital	Waterville	3,863	1,394	5,257	107,224
Rumford Community	Rumford	3,728	1,393	5,121	112,345
Waldo County General	Belfast	1,857	2,069	3,926	116,271



# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### Preserving Food With Radiation Several Years Away

The use of radiation to preserve food appears to be "several years away from commercial utilization," according to a report in the November 5th *Journal of the American Medical Association*.

H. E. Robinson, Ph.D., and W. M. Urbain, Ph.D., Chicago, authors of the report, said "radiation preservation is still in the research stage."

"No irradiation process can be used until the United States Food and Drug Administration, and possibly other governmental agencies, approve it," they said. "Such approval is not likely until present research involving animal-feeding studies has been completed."

In radiation preservation, gamma rays or electron beams are used to destroy the spoilage micro-organisms in food, the researchers explained.

"Gamma rays are derived from radioactive materials," they continued.

"Such materials are produced in large quantities in atomic reactors . . .

"Electron beams, on the other hand, are best secured from man-made electron generators which involve a source of electrons, such as a hot wire."

Undesirable changes in food caused by radiation are a serious problem associated with this process, the authors said.

Radiation can induce an "off-flavor" resembling a scorched taste in food. It can also turn cooked meats

pink, wilt lettuce, thin the white of eggs and impair the baking properties of flour.

"Observed changes in nutritive value resemble those which occur with other preservation methods and, therefore, are not considered serious," they added.

Another problem created by radiation involves safety.

"Chemical changes induced in food could produce toxic substances and thereby render the food unsafe," the report said. "Extensive studies with animals, however, have not uncovered evidence of any toxic substances being formed. Two or three more years of work are needed before a final conclusion can be reached."

The safety problem also involves control of radioactivity. High-energy rays, such as 15 to 20-million-volt electron beams, can convert certain elements in foods to radioactive isotopes. Voltages in excess of five million probably cannot be used. Thus, energy levels must be controlled carefully, the authors concluded.

### Self-Administration Of Vitamins Is Hazardous

Vitamin deficiency in persons able to follow an adequate diet is "comparatively rare," the *Journal of the American Medical Association* said recently.

An editorial in the November 5th *Journal of the American Medical Association* re-emphasized the AMA position that "all the nutrients essential to the maintenance of health in the normal individual are supplied by an adequate diet."

Self-administration of vitamins "reflects the hazards of self-medication," the editorial said.

"The tragedy is that masked organic disease may be the basic cause of symptoms that are being treated erroneously with vitamin preparations.

"With experimentation and clinical observations it has become apparent that vitamin deficiency in persons able to follow an adequate dietary is comparatively rare. Logically, therefore, supplementary vitamin administrations should be a part and parcel of medical care—not self-imposed by the patient, but actually prescribed by the physician."

Vitamins came into prominence largely because of the occurrence of deficiency diseases, such as rickets and scurvy, in depressed areas, the editorial said.

"The modern processing of foods, expedited transportation, and refrigeration exclude almost all possibilities of vitamin deficiency; it would appear sensible, therefore, for the housewife and the restaurateur to take over the responsibility of providing a well-balanced meal and for the physician to assume the responsibility for prescribing vitamin supplements in potential or frank deficiency states," it concluded.

### Capital Notes At Random: Rep. Fogarty's Challenge

A Rhode Island Congressman touched a few sensitive spots the other day when he questioned whether "we are sacrificing lives on the sacred altar of doctor-patient relationship." Rep. John E. Fogarty is the House leader on national health affairs. He takes a more militant interest in this field than all six MD's in the Congress put together. His speech at the Atlanta dedication of the Communicable Disease Center was not only a protest against unquestioning adherence to doctor-knows-best principle in an age of environmental hazards and mass immunizations, when a knowledgeable laity is important. It was also a portent of a "get tough" attitude on the part of Congress when medical witnesses come to the Capitol with "19th century ideas," as Fogarty put it.

"I'd like," he said, "to see health officers' jobs be just as dependent on the approval of the consumers of health services as they now are on the approval of organized medicine." Note: Rep. Fogarty, more than any one else at the Capitol, has *the* word on funds for medical research, hospital construction grants, Federal support of state health programs. — WRMS 691.

### NIH Polycythemia Study Calls For New Patients

The National Cancer Institute is seeking cooperation of private physicians in its study of possible relationships between polycythemia and neoplastic diseases. At the Clinical Center, elevation of circulating red cell volume in absence of leucocytosis and thrombocytosis has been noted in many patients with renal tumors and

cerebellar hemangioblastomas but rarely in patients with uterine fibroids or pheochromocytomas. Information on placement of patients in this study is obtainable from Dr. Thomas A. Waldmann, National Cancer Institute, Bethesda 14, Maryland. (Telephone OLiver 6-4000, ex. 3667). — WRMS 697.

### A Thought About Blue Cross-Blue Shield Purposes

EVERYWHERE people are talking about health insurance. That is, how to finance medical care for the aged, the needy, the chronically sick—and almost everybody.

Ironically, the problem stems from the happy fact that modern hospital care and medicine are racing ahead, helping us all stay well and live longer. While we want to be alive and well, we tend to grumble, however, about the increased cost of such advancement.

Most of the world's great nations have met the problem the easy way—or so it seemed. They dumped it into the lap of Government.

HERE WE HAVE determinedly traveled a self-reliant, voluntary road, not only to safeguard our free tradition, but because this has always seemed more sensible. Nonprofit Blue Cross-Blue Shield Plans have been the keystone of this effort.

Blue Cross was established to cover hospital bills—the most expensive part of modern illness—at the lowest cost fair to subscribers as well as to hospitals. Blue Shield expanded the coverage to include physicians' services, principally those concurrent with hospital care. To fulfill these purposes will always require the full support and understanding of subscribers, the public, hospitals and doctors alike.

It must be plain to all that those who abuse or discredit Blue Cross-Blue Shield, even unwittingly, weaken what may prove our last, best hope to preserve private medicine and voluntary hospitals—the right of everyone to choose his hospital or doctor in the free, American way. — Associated Hospital Service of Maine

### Foreign Intern Issue Subject of Conference

The State Department and Department of Health, Education and Welfare are involved, along with AMA and AHA, in controversy over alien, foreign-trained interns and residents in U. S. hospitals who have not passed their proficiency examinations. AMA's Council on Medical Education and Hospitals has called a special meeting in Washington December 8th. The big question—whether hospitals should lose their accreditation if they do not drop interns and residents who have not passed their examinations by the close of 1960. Wholesale discharge of young physicians in this country on student visas could prove politically embarrassing, hence the active interest of State and HEW, which are deeply concerned with international medicine. — WRMS 698



### Health Coverage of U. S. Workers To Be Evaluated

The Civil Service Commission is about to launch an "intensive evaluation" of the Federal employees health benefits program which became effective last July. Findings will be used in renegotiation of contracts with insurance carriers and service providers, scheduled to get under way in the spring. It is planned to collect opinions and data on settlement of claims, record keeping, enrollment procedures, adequacy of benefits, etc.

A preliminary hearing will be held this week in the Washington, D. C. Municipal Court on a complaint against the National Federation of Post Office Clerks. Albert F. Jordan, Washington, D. C. Supt. of Insurance, charges the union is doing insurance business illegally in its contractual relations with the Civil Service Commission. The union contends it is not subject to licensing. CSC, for its part, is keeping a judicious silence. — WRMS 698

### Coverage Increased

The 74 Blue Shield Plans located in North America reported a net gain of 151,394 new members during the second quarter of 1960, bringing total enrollment to 45,798,636 as of June 30, the National Association of Blue Shield Plans announced recently.

"Blue Shield now has enrolled one out of every four persons in the United States, and almost 15 per cent of the total Canadian population," the National Association indicated in its report.

### Medical Care Laws Due For Change

The election of Senator John F. Kennedy as President made it probable that the issue of providing health care for the aged under Social Security again will be raised in Congress next year.

Kennedy will go into the White House pledged "to the immediate enactment of a program of medical care for the aged through Social Security." His intentions present a serious challenge to the nation's physicians

who have vigorously opposed use of the Social Security system to provide health care for the aged.

Kennedy's program would provide what he described as "a life policy of paid-up medical insurance" for older persons. "It would provide them hospital benefits, nursing home benefits and X-rays and laboratory tests on an out-patient basis," he said in his campaign for the Presidency.

He said the Kerr-Mills legislation enacted into law last summer is inadequate. The medical profession supports this federal-state program to provide health care for needy and near-needy aged persons. In approving the Kerr-Mills program, Congress rejected the Social Security approach espoused by Kennedy and union labor leaders.

Kennedy's medical program also included: federal grants for construction, expansion and modernization of medical, dental and public health schools; federal loans and scholarships for medical students; federal grants for renovating older hospitals; increased federal financial support for medical research, including basic research, and expansion of federal programs for rehabilitation of handicapped or disabled persons.

### 6 MD's Elected To House Include 2 New GOP's

In House elections, all four members who are M.D.'s were victorious and they were joined by Drs. Durward G. Hall (Mo.) and Edwin R. Durno (Oreg.). Both are Republicans. Returned to their Congressional seats were Republicans Walter Judd (Minn.) and Ivor D. Fenton (Pa.) and Democrats Dale Alford (Ark.) and Thomas E. Morgan (Pa.). Defeated in their first time bids for Congress were a Democrat, Dr. John D. Kaster (Calif.), and three Republicans, Drs. Floyd M. Burgeson (Ia.), Charles Muzzicato (NY) and L. F. Nadrowski (NY).

Dr. Lee L. McKinley, a Republican dentist, lost his Alaskan Senate contest with Senator E. L. Bartlett. Rep. Daniel J. Flood (Pa.) swamped his opponent for re-election, a Republican chiropractor named Donald B. Ayers. — WRMS 699.

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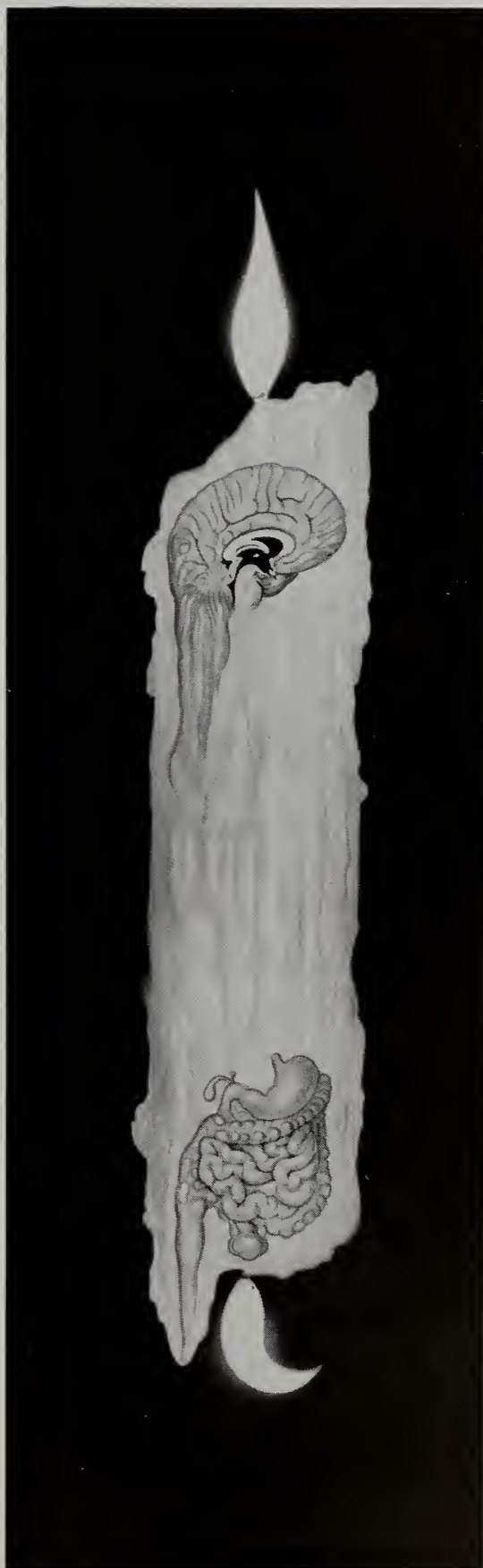
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Secretary, Clyde I. Swett, M.D., Island Falls

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## FRANKLIN

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## KNOX

President, Richard Waterman, M.D., Waldoboro  
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Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## CUMBERLAND

October 20, 1960

A regular meeting of the Cumberland County Medical Society was held at the Eastland Hotel in Portland, Maine on October 20, 1960. After a social hour and dinner the meeting was called to order by the President, Dr. Donald F. Marshall. The minutes of the previous meeting were read and approved.

The following physicians were elected to membership in the county society: Drs. Donald E. Allen, John H. Shaw, John G. Bisgrove, James H. Bonney, Paul O. Proudian and Stanley W. Kent.

A report on the Public Relations and Grievance Committee was given by Dr. Philip S. Fogg, Jr. Dr. William C. Buggage reported for the Committee on Aging. He announced that an agency, sponsored by the Portland Junior League, had been set up in the Chamber of Commerce Building to disseminate information concerning facilities and assistance available to the aged.

An announcement was made for Dr. Charles R. Glassmire, in his absence, that the Arthritis Bus is now available for home treatment of arthritics.

Dr. Donald F. Marshall raised the question of an effort on the part of the county society in stimulating in high school students the desirability of a medical career. Following considerable discussion, it was voted that the chair appoint a committee to investigate methods for accomplishing this work. The following committee was appointed by the President for this purpose: Dr. George O. Chase, Chairman; Drs. Louis G. Bove; David S. Wyman; Philip S. Fogg, Jr. and Douglas R. Hill.

Dr. Elton R. Blaisdell raised the question of the usual support of the medical society for Diabetes Detection Week. It was voted that the society provide up to \$100.00 for the publicity of Diabetes Detection Week.

Dr. Carl E. Richards, President-elect of the Maine Medical Association, announced that the Health Council of the State of Maine was meeting to determine ways to implement the new Mills Law which provides medical care for the aged through state programs. He stated that the council was very receptive to any ideas physicians might have as to ways to run the program.

The speaker of the evening was Dr. Thomas A. Martin who discussed the "Future of American Medicine" in a very informative and interesting fashion.

The meeting was adjourned at 10:30 p.m.

ALBERT ARANSON, M.D.  
Secretary

## OXFORD

October 5, 1960

The annual meeting of the Oxford County Medical Society was held at the Bethel Inn on October 5, 1960. The new officers elected were:

President, George W. Miller, M.D., Norway  
Vice-President, Albert J. Grish, M.D., Rumford  
Secretary-Treasurer, Albert P. Royal, Jr., Rumford  
Delegates to the Maine Medical Association House of Delegates for one year: Norman M. Jackson, M.D. Two

years: John A. Green, M.D. Alternates: Albert J. Grish, M.D., one year; H. Richard Bean, M.D., two years.

A brief report of the Professional Relations Conference, presented by Blue Shield of Region No. 1, which was held at the Somerset Hotel in Boston on September 14, 1960 was given by the Secretary.

Following a social hour and dinner, the members enjoyed a panel discussion of "Cancer of the G.I. Tract" sponsored by the Maine Cancer Society and including the following participants: Drs. William F. Mahaney, Saco; Dexter E. Elsemore, Dixfield; Albert P. Royal, Jr., Rumford; Eugene E. O'Donnell, Richard B. Stephenson, William L. MacVane, Jr. and Richard Rodgers all of Portland.

ALBERT P. ROYAL, JR., M.D.  
*Secretary*

YORK

October 12, 1960

A regular meeting of the York County Medical Society was held at the York Hospital, York, Maine, on Wednesday, October 12, 1960. There were twenty-one members and one guest present.

A social hour and inspection of the hospital was held from 12:00 Noon to 1:00 P.M. A lively business meeting was held following dinner. Drs. Kenneth E. Leigh and Carl E.

Richards were appointed to bring the By-laws up to date and report back at a special meeting on November 9.

The annual meeting will be held at the Webber Hospital in January. The Nominating Committee will be announced at this meeting.

CHARLES W. KINGHORN, M.D.  
*Secretary*

New Members

CUMBERLAND

Donald E. Allen, M.D., Steep Falls  
John G. Bisgrove, M.D., 165 Park Row, Brunswick  
James H. Bonney, M.D., 229 Vaughan Street, Portland  
Stanley W. Kent, M.D., 42 Deering Street, Portland  
Paul O. Proudian, M.D., Box C, Pownal  
John H. Shaw, M.D., 14 Dartmouth Street, Portland

Deceased

AROOSTOOK

Penry L. B. Ebbett, M.D., Houlton, October 10, 1960

Announcements

Symposium On Clinical Nutrition

A symposium on Clinical Nutrition will be held in Washington, D. C. on November 30, 1960. This symposium, sponsored by the Council on Foods and Nutrition of the American Medical Association in cooperation with The Medical Society of the District of Columbia, will begin at 8:30 a.m. Wednesday, November 30, in Room B of the National Guard Armory. The meeting will be opened to all interested persons.

Seventh Annual Series  
Of  
Bahamas Conferences

The Seventh Annual Series of Bahamas Conferences announces the coming series of meetings listed below:

Tenth Medical Conference Nov. 30 to Dec. 10, 1960  
Third Surgical Conference Dec. 28 to Jan. 7, 1961  
Conference on Hypertension Jan. 8 to Jan. 14, 1961  
Third Serendipity Conference Jan. 22 to Jan. 28, 1961  
Second Allergy Conference Feb. 9 to Feb. 15, 1961  
Eleventh Medical Conference Apr. 3 to Apr. 15, 1961  
Conference on Internal  
Medicine Apr. 30 to May 6, 1961

For further information write to: Irvin M. Wechsler, Executive Director, P. O. Box 1454, Nassau in the Bahamas.

Ninth Annual Cancer Seminar

The ninth Annual Cancer Seminar of the Arizona Division, American Cancer Society will be held at the Tidelands Motor Inn, Tucson, Arizona on January 12, 13 and 14, 1961.

This meeting is to be devoted to the various aspects of chemotherapy, virology, endocrinology, environmental factors, etc. as they relate to tumor formation or the therapy for tumors. The theme for the three-day session will be "Changing Concepts in Tumor Formation and Therapy."

For further information write to: Darwin W. Neubauer, M. D., Chairman, American Cancer Society, 37 East Jackson Street, Tucson, Arizona.

Ninth Postgraduate Course  
Diabetes And Basic Metabolic Problems

The Course will be held in the auditorium of the School of Medicine Louisiana State University, New Orleans, Louisiana, January 18, 19 and 20, 1961. The Jung Hotel will serve as headquarters.

The Committee on Professional Education of the American Diabetes Association is responsible for the Course which is being offered in cooperation with the Schools of Medicine of Louisiana State University and Tulane University. T. S. Danowski, M. D., of Pittsburgh, is Chairman of the Committee



and Director of the Course, and Daniel W. Hayes, M. D. of New Orleans, is Chairman of the Local Committee.

The three-day Course is open to Doctors of Medicine. The fee is \$40.00 for members of the American Diabetes Association and \$75.00 for nonmembers. The American Academy of General Practice will give 17 hours of Category II Credit for the Course.

Topics for the three-day session will include: "Clinical Aspects of Lipids," "Tools for the Regulation of Diabetes Mellitus" and "Syndromes Related to Diabetes Mellitus."

Additional data and registration forms may be secured from the American Diabetes Association, 1 East 45th Street, New York 17, New York.

### Annual Cardiovascular Seminar

The Annual Cardiovascular Seminar sponsored by the Northeast Florida Heart Association will be held at the Prudential Auditorium, Jacksonville, Florida on January 26, 27 and 28, 1961.

The participating physicians will include: Dr. William Dock, Professor of Medicine, New York State University; Dr. Lewis Dexter, Assistant Professor, Harvard University Medical School; Dr. Milton Rosenbaum, Professor and Chairman, Department of Psychiatry, Albert Einstein College of Medicine; and Dr. Richard Ebert, Professor and Chairman, Department of Medicine, University of Arkansas School of Medicine.

Further details and programs may be obtained by writing: Daniel R. Usdin, M. D. President, The Northeast Florida Heart Association, 1628 San Marco Boulevard, Jacksonville 7, Florida.

### International Clinical Postgraduate Program

Physicians and surgeons from three nations will participate in an international clinical postgraduate program to be offered by University of California Extension in January of 1961.

The second annual program, sponsored jointly by the School of Medicine, UCLA; Universidad Nacional Autonoma de Mexico; the University of Guadalajara School of Medicine and the Escuela Nacional de Medicina, Mexico, D. F., is an illustration of international cooperation in the field of Medicine. It is designed to give participating doctors an unusual opportunity to avail themselves of different types of case material in this section of the American continent.

The program will convene in Mexico City, January 9 through January 13; continue in Acapulco from January 15 to January 17 and close in Guadalajara January 20.

Requests for additional information or applications concerning the course should write to: Thomas H. Sternberg, M. D., Assistant Dean for Postgraduate Medical Education, University of California Medical Center, Los Angeles 24, California.

### The Van Meter Prize Award For 1961

The American Goiter Association, Inc., again offers the Van Meter Prize Award of \$300.00 to the essayist submitting the best manuscript of original and unpublished work concerning "Goiter — especially its basic cause." The studies so submitted may relate to any aspect of the thyroid gland in all of its functions in health and disease. The Award will be made at the Annual Meeting of the Association in the Warwick Hotel, Philadelphia, Pennsylvania, May 3-6, 1961. A place on

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the program will be reserved for the winning essayist if he can attend the meeting. Where more than one author appears on the manuscript they will be asked to designate a single recipient to receive the award.

The competing essays may cover either clinical or research investigations, should not exceed 3,000 words in length and must be presented in English. Duplicate typewritten copies, double spaced, should be sent to the Secretary, John C. McClintock, M.D., 702 Madison Avenue, Albany 8, New York, not later than January 1, 1961. Manuscripts that do not conform to these requirements will not receive consideration. The committee who will review the manuscripts is composed of men well qualified to judge the merits of the competing essays.

### New Film Available

A new film describing the physician's role in providing medical reports for patients who apply for disability benefits under the Federal Bureau of Old-Age and Survivors Insurance program is now available.

Produced and released by the Bureau of Old-Age and Survivors Insurance with the cooperation of the American Medical Association, the 30-minute, 16mm, black and white film is entitled, "The Disability Decision." Although designed primarily for viewing by physicians, it is also an interesting and informative presentation for audiences who may be concerned with the preparation of medical reports and their utilization in disability programs.

Prints of the film, "The Disability Decision," are now available (return postage only) from the American Medical Association Film Library, 535 North Dearborn Street, social security offices of State agencies which, under Federal-State agreements, make disability determinations for BOASI. In most States these are vocational rehabilitation agencies. The presence at film showings of a State agency physician who can answer questions concerning the methods of evaluating disability under the Old-Age and Survivors Insurance program may be arranged by contacting either the social security district office or the State agency.

### The West Virginia Academy Of Ophthalmology And Otolaryngology

The West Virginia Academy of Ophthalmology and Otolaryngology will hold its annual meeting at the Greenbrier Hotel, White Sulphur Springs, West Virginia on April 6, 7 and 8, 1961.

The guest speakers on Ophthalmology are: Dr. Irving H.

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Leopold of Philadelphia, Pennsylvania and Dr. Harvey E. Thorpe of Pittsburgh, Pennsylvania.

The guest speakers on Otorhinolaryngology are: Dr. John J. Shea of Memphis, Tennessee and Dr. F. Johnson Putney of Philadelphia, Pennsylvania.

In addition to the scientific program, arrangements have been made with Mr. Philip Salvatori of Oberg Laboratories to discuss and show techniques of contact lens fitting.

For additional information please contact the secretary, Dr. Worthy W. McKinney, 109 East Main Street, Beckley, West Virginia.

### American College Of Surgeons Four-Day Meeting For Surgeons And Nurses March 6-9, 1961

Surgeons, graduate nurses, and related medical personnel from all parts of the country are invited to attend the annual four-day Sectional Meeting of the American College of Surgeons in Philadelphia, March 6 through 9, 1961. Headquarters will be the Bellevue Stratford, Ben Franklin, and Sylvania Hotels, with some sessions scheduled at leading hospitals in the city.

The program will include hospital clinics, panel discussions, symposia, scientific papers, industrial exhibits, and medical motion pictures in general surgery sessions and in the specialties of obstetrics and gynecology, ophthalmology, otolaryngology, urology, orthopedic surgery, plastic surgery, pediatric surgery and thoracic surgery.

"How I Do It" clinics, educational demonstrations by surgeons noted for specific techniques, will be presented each morning during the meeting.

For further information write to: American College Of Surgeons, 40 East Erie Street, Chicago 11, Illinois.

### New Officers Elected To Maine Thoracic Society (Formerly Maine Trudeau Society)

The Maine Thoracic Society is the new name of the former Maine Trudeau Society. The change was voted at the recent annual meeting of the Society and conforms with the recently changed name of the national group. The purpose of the change is to better define the organization with its broad interest in the general field of respiratory diseases instead of with tuberculosis alone.

Dr. George I. Wilson, Houlton, was elected President to succeed Dr. William L. MacVane, Jr., Portland. Other officers elected were Dr. David Davidson, Portland, Vice-President; and Dr. Stanley B. Covert, Kingfield, Secretary. Dr. George W. Wood, III, Bangor, is the delegate to the American Thoracic Society.

### Gill Memorial Eye, Ear And Throat Hospital

The Gill Memorial Eye, Ear And Throat Hospital will hold its Thirty-Fourth Annual Spring Congress in Ophthalmology and Otolaryngology and Allied Specialties, April 10 through April 15, 1961. There will be twenty guest speakers and fifty lectures. For further details write to: E. G. Gill, M. D., Gill Memorial Eye, Ear And Throat Hospital, 711 South Jefferson Street, Roanoke, Virginia.

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# The Journal of the Maine Medical Association

Volume Fifty-One

Brunswick, Maine, December, 1960

Number 12

## The Early Recognition Of Cancer Of The Uterus\*

BY JOHN B. SHOBER, A.M., M.D.

Associate Surgeon to the Gynecian Hospital, Philadelphia, and Surgeon to the  
Bar Harbor Medical and Surgical Hospital.

(Read at the 58th Annual Meeting of the Maine Medical Association at Bar Harbor,  
June 29-30, 1910.)

I have nothing new or original to present in this paper. My only object in bringing the subject before you at this time is to reiterate and emphasize a few of the points which have been so well brought out by Winter, Schauta, Kroemer, J. G. Clark, Cullen, and a host of others — and at the same time to urge upon the profession of this state the imperative duty which faces it of adopting and carrying out the recommendations contained in the Report of the Committee on Cancer of the Uterus, submitted to the Section on Obstetrics and Diseases of Women at the Boston Session of the American Medical Association, June, 1906.

Practically the same recommendations are embodied in the recent report of the Cancer Commission of the Medical Society of Pennsylvania, and the Commission appeals to the public to co-operate with the medical profession in a campaign of education, whereby the facts concerning this dreadful scourge and the means we have to combat it may be made known in plain and simple language, which can be easily comprehended by the general public as well as by that large class of the medical profession — the general practitioners — who by reason of their manifold duties have not followed the more recent developments or who now fail

to recognize the danger signals of cancer in its manifold forms.

The time is near at hand when the public will be quite as familiar with this subject as it now is with regard to tuberculosis, diphtheria and appendicitis, and the physician who permits a woman under his care, suffering from menstrual irregularities and vaginal discharges to drift into a state of inoperability without making a diagnosis in time, or who fails to insist upon an examination by a specialist at the earliest possible moment, can be held criminally responsible by the courts. Until the public is thoroughly awakened, the responsibility for the tremendous increase in cancer throughout the civilized world and the high percentage of inoperable cases which come into the hand of the gynecologist, lies at the door of the medical profession. As I have indicated above, there is danger that the public will outstrip us in this matter of education. Already in Germany as a result of the work of Winter in the matter of public education, a constantly increasing percentage of women are applying for examination in the operable stage of cancer of the uterus, and many lives are being saved which a few years ago would have been doomed. It is high time, therefore, for the family physician, who alone sees these cases in the earliest stages, to heed the warnings so constantly being uttered by the surgeons and gynecologists. He must familiarize

\*Reprinted from the *Maine Medical Journal*, Volume 1,  
No. 3, page 124, February, 1911.



himself with the early signs and danger signals of cancer in all parts of the body, and he must be made to realize that he is responsible and that it is his duty either to so qualify himself that he can make an immediate diagnosis or else refer his patient to a specialist for an opinion. Whenever there is the slightest doubt, the question should always be settled by a consultation, for the only hope we have now, with our present knowledge of the disease, of curing these unfortunate cases, is by a radical surgical operation at the earliest possible stage.

I think there is no doubt that in its incipency cancer is a local disease, just as diphtheria, syphilis, appendicitis and septic wounds are at first local diseases. If every case of diphtheria could receive antitoxin, if the prepuccial sore could be excised, the appendix removed, and the septic wound appropriately treated within twenty-four hours after the first symptoms there would be no deaths from diphtheria, fewer cases of secondary and tertiary syphilis, no cases of appendicial peritonitis and very few cases of septicaemia.

The progress of cancer after implantation is almost as rapid as diphtheria, syphilis, appendicitis and septic wounds. Every month, every week, every day, counts. It progresses with appalling rapidity, and when once it has invaded the surrounding tissues and lymph channels the case is usually beyond the pale of even the most radical and mutilating operation ever devised.

There is a silver lining to every cloud, and while it is a blot upon the escutcheon of the medical profession that at present we know nothing of the etiology and therefore have no specific for cancer, in spite of the magnificent researches which for years have been carried out in the laboratories of the world, there are signs that these labors will some day be rewarded and that most of us will be alive to join in the paean of victory, when another constellation will be added to the already richly adorned crown which belongs to the noblest profession in the world. Nor are we without consolation at the present time. We are now in possession of certain facts concerning this dreadful disease by which its ravages may be combated, its mortality diminished and cures obtained, if we only use our knowledge intelligently. A careful study of the pathology, clinical history and statistics teaches us that cancer is primarily a local disease, that it is not hereditary, that it is not infectious, that it frequently is ingrafted upon the irritation following traumatism of some chronic inflammatory process, and that it presents in different parts of the body, even in its incipient stages, certain symptoms, which if not characteristic, at least point to the possibility and suspicion of its presence and which may at least be considered as danger signals, which it behooves us to regard.

These facts being established, it is evident that the part affected must be removed by operation promptly, that no importance should be attached to family history in this disease, that no quarantine is necessary in

cancer cases, that the results of all traumatism and all chronic inflammatory processes must be watched and cured if possible, and that all possible symptoms and danger signals occurring in any part of the body must be regarded with suspicion and investigated promptly. In this connection, referring to the general practitioner, Howard Kelly in his recent work entitled *Medical Gynecology*, makes this statement: "Largely in his hands also lies the fate of the great army of cancer patients, who to-day apply to the specialist, as a rule, too late for relief."

The cancer commission of the Medical Society of Pennsylvania prefaces its report as follows:

"That in the great majority of cases cancer is curable.

"That to be cured cancer must be detected in its early stages.

"That the only certain cure, even in the early stages, is to have the diseased tissues completely removed by a surgical operation.

"That in four-fifths of the cases cancerous growths start in some part easily accessible to the surgeon.

"That any sore caused by constant irritation of the skin or mucous membrane may become cancer and therefore should receive prompt medical attention.

"That any wart, mole, or tumor which shows ulceration is likely to be cancerous, and, therefore, should be removed at once.

"That cancer is increasing with such alarming rapidity that in some sections of the state it kills as many persons as tuberculosis.

"That this slaughter is needless. For if people will watch for the early symptoms of cancer and in each case have the tumor removed before it spreads, the cure will be most certain and the death rate from cancer reduced to a minimum."

The symptoms of cancer mean death. By the time the characteristic symptoms of cancer are manifested the case is beyond hope of relief except in very rare instances. Any third year medical student knows the meaning of the pain, the hemorrhages, the discharges, the foul odor and the cachexia of a case of cancer of the uterus. I wish it could be indelibly impressed upon the minds of the medical profession and the public that the symptoms of cancer mean death and that it is criminal to wait for them to appear, because it is possible to recognize cancer long before they do appear. There is no characteristic symptom of early cancer of the uterus, but there are suggestive symptoms which will always lead to the suspicion, and when present the question can invariably be positively or negatively settled by the microscope.

These suggestive symptoms are so well summed up in the report of the Committee on Cancer of the Uterus that I feel I cannot do better than to quote them in full:

"SYMPTOMATOLOGY OF CANCER OF THE UTERINE CERVIX.

"(a) A disease of midlife — occurring especially between the ages of 30 and 50.

"(b) It rarely occurs in women who have not borne children.

"(c) While there is no characteristic early sign of cancer, bleeding or a blood-stained discharge is usually, but not always, present. It may be:

"1. Slight, 'only a show,' appearing at irregular intervals, as on exertion, after sexual intercourse, using a douche or straining at stool; or it may be slight but constant, the patient noticing that her clothes are slightly stained on taking them off at night.

"2. In other cases the bleeding may be more profuse, simulating a prolonged or irregular menstruation, or a return of the menses after the menopause.

"3. In still other cases, severe hemorrhage may occur, appearing either as the result of some unusual exertion or during menstruation, or the cause may not be apparent.

"(d) In a small percentage of the cases bleeding may be absent, but usually some other sign, such as an unusual leucorrheal discharge, calls attention to the growth. In a small percentage of cases all symptoms referable to the growth may be absent for a long time.

"(e) Pain caused by the growth usually occurs later in the course of the disease, and must be differentiated sharply from pain arising from pelvic trouble independent of the cancer, such as inflammatory conditions of the tubes, ovaries, etc.

"4. It is evident that all women suffering from uterine bleeding or other symptoms referable to the uterus should be examined as soon as possible, and if the diagnosis is not clear the uterus should be curetted or a small piece of the cervix excised and not thrown away, but preserved in 10 per cent formalin or ordinary alcohol and sent to a competent pathologist.

"5. All symptomatic aberrations referable to the generative organs of women about the menopause should be looked on as the possible beginning of malignant disease, and an immediate examination should be urged. If no pathologic change is detected, this fact alone would be of great value to the physician as well as to the patient. If a suspicious area is found, prompt measures for its certain diagnosis by the microscope may be instituted.

"(a) *Course.* — Its course is rapid. It passes beyond the limits of the uterus proper (and hence becomes practically incapable of complete eradication) in a period which usually varies between 30 days and six months from the outset of the earliest symptom. When it runs its course undisturbed patients rarely live more than three years. About three-fourths of them die within two years; about one-third within one year after the first manifestation of the disease.

"(b) *Results Under Existing and Past Conditions.* — Probably from 75 to 80 per cent of these patients in this country do not apply for treatment until the disease has progressed too far for anything but palliative measures (i.e., until the disease is no longer limited to the uterus.) In only about 20 to 25 per cent of the total

number of cases of cancer of the cervix is radical operation attempted. In the vast majority of these cases, a careful study of the gross specimen and microscopic sections from the outer margin, will show that the surgeon has failed to remove all of the diseased tissues. The so-called rapid recurrences are really, therefore, continued growths. In these cases medical attendants have made an effort to save the patient's life, but the disease had, unfortunately, progressed too far for that result to be possible. Unfortunately, in from only three to six per cent of the total number of cases of cancer of the cervix is an operation instituted early enough for the surgeon to circumvent the disease. It is only in this class, of course, that the disease is completely eradicated.

"(c) *Results Which Appear Easily Possible.* — Authentic cases of complete eradication of undoubted cancer of the cervix are so numerous as to leave no doubt that, if the diseased tissues are completely excised and if implantation at the time of the operation is avoided, a permanent cure is not only possible but also probable."

#### DISCUSSION

Dr. SAWYER: Mr. President: I will not say very much on the subject but I was interested in the paper. I don't know of anything in the whole line of medicine that has appealed to me so much as cancer, especially cancer of the uterus. I hardly can agree with him that the general country practitioner is unable to make a diagnosis, because I believe he is, if he takes the time and trouble to do it. There are symptoms presented. I don't think it is a difficult matter for any practitioner to cut a piece and have a microscopical examination made. And with an early operation the vast majority of these patients are saved, and if it is not made, why of course they go on to death, and a terrible death it is too! I don't know of anything that can compare with a poor woman going on with the sloughing and pain and this foul odor to death. And we are often responsible for it. I admit it myself. We find these irregularities — we have not examined the cases and have not made investigation. I remember one case not very long ago. I was sent for to go into another town to do an operation for hemorrhoids. I naturally examined the woman before we got ready to do an operation. She had hemorrhoids to be sure, but the vagina was full of a cancerous mass that had come from the uterus, and the physician had treated her for a long time without having made an examination. He accepted her word that she had hemorrhoids and he had given her ointments and laxatives and so on. That is, perhaps, an extreme case. But there are women coming to us constantly with these disturbances and we don't investigate. I think that is the point to make, that every woman that has symptoms enough to come to us, we should investigate, make an examination, investigate and find out whether she has a cancer or not.

Dr. SWASEY, of Portland: Mr. President: It must be true that every man here is interested in this subject. It must be true that every man here who has been in practice any length of time has met with this dread disease more or less. I often take some satisfaction in recalling a case, a woman in the fifties, whom I insisted upon curetting some six years ago, who was having irregular hemorrhage. There was no evidence of disease of the cervix, but the pathologist pronounced that there were cancer cells. An operation was done and the patient lived until last year and died from the effects of an apoplectic shock. I feel that the general practitioner is often blamed when he should not be. I had a case this



summer, a woman approaching sixty, with hemorrhage at different times. I explained to her the possibility in such a case as that, but she insisted that I give her something for it, which I did, with a return of the hemorrhage, and I insisted that there should be something more done, the case should be further investigated, that it might be of a serious nature. Not as yet has she consented. It is not always that the patient will submit to what the physician directs, to what he thinks essential. I should have to differ with Dr. SHOBER as to the necessity of a specialist being called in these cases for several reasons. One is not always available. One may be expensive. The patient cannot afford it. Another objection which to my mind is very forcible is for the general practitioner to receive the impression that he can't do anything. While I am a believer in specialists, that we must have them, and they have their very important and most valuable service to perform for us and for the community, it does seem to me that there is an unfortunate tendency to put our work into their hands. It seems to me that the general practitioner should be expected to do this, and that he ought to qualify himself to do it, and that in nineteen cases out of twenty he can do it, and do it successfully. If it keeps on, the proper function of the general practitioner will be to tell his patient which specialist to go to, and they will go from one to another and they will come back to the general practitioner, as has been demonstrated here today. Don't misunderstand me. I am not criticising the specialists or their lines of work. They are most essential. On the other hand, it is a mistake for the general practitioner to feel that his cases have necessarily got to go to the specialist. I think the general practitioner should qualify himself to do such work as this, and do it.

Dr. JACKSON, of Houlton: Mr. President: I think that when the average case of cancer of the uterus comes to a man it doesn't make any difference whether he is a general practitioner or pathologist or gynecologist, it is a case beyond operation. The case has gone so far that the woman will die within six months or a year. A prominent physician in Philadelphia says that he thinks that a certain proprietary tablet is the cause of as many deaths of cancer of the uterus as anything else. A general practitioner can diagnose as well as anybody else if he will only take the time and trouble. When a woman comes in to a man and gives a history of irregular hemorrhage and he simply hands her a bunch of these tablets and tells her to take them, he is not going very far toward making a diagnosis of cancer. There is another thing Dr. SAWYER spoke about, in the late stages of malignant growth. Dr. GELHORN of St. Louis has come out in the last two years on the value of treating these inoperable cases with acetone. I can assure you that this is one of the most beneficial things that can be used in an inoperable cancer of the vagina and cervix. It is put in with an ordinary vaginal speculum; it is an inexpensive thing, it doesn't cost but forty cents a pound. It will stop the pain, it will stop the odor and it will certainly give a woman with inoperable cancer about as comfortable an existence as she can possibly get.

Dr. NEALLEY: I would like to ask if it is not a good rule to follow to refuse treatment to any female patient presenting herself with pelvic trouble unless she allows a vaginal examination.

Dr. BENNET: I would like to say one word in support of the general practitioner. I think that in order to be able to diagnose cancer early we must enter on a course of education among the ladies. I do not know how it is in the city, but I do know that in country practice ladies are led to believe that they are not sick, that there is nothing the matter with them unless they are terribly sick, unless there is something very decidedly the matter with them. It is very evident, as we all know, that if we are going to diagnose cancer early, we must diagnose it before there are very many symptoms, and if the women of our community are taught that slight things

are important, that slight disorders are important, that the little things should be attended to and looked after, and that they should not neglect to consult a physician until the time is past when he can be of very much service to them, that we would get along very much better and be able to save lives, and also suffering. Another thing in reference to the general practitioner as being a sort of dispenser of cases to different persons. If I am going to assort my cases and send one patient to one man and another to another man, if I send them to the right man I must certainly make a diagnosis.

PRESIDENT: Any further discussion on this subject? If not, I will call on Dr. Shober to close the discussion.

Dr. SHOBER: Mr. President: I did not for one instant intend to cast any reflection upon the general practitioner in regard to this question. I do mean, however, to say that by the time the symptoms of cancer of the uterus are recognized in the ordinary way, it is too late and that woman is doomed. I think this question is a most important one. It is quite as important as the question of tuberculosis, and as many patients are dying throughout the community from cancer as from tuberculosis, and we cannot afford to ignore this fact or stand upon ceremony with each other in regard to how we shall attack it. The general practitioner, I say, should be able and should qualify himself to diagnose the early symptoms of cancer of the uterus, and it is a very difficult diagnosis to make. There is no easier suspicion than the suspicion that something may be wrong because certain women have irregularities — the vast majority have these irregularities of menstruation, especially during the cancer age, because of the beginning of a cancer of the uterus or the cervix. Now the specialist can't make that diagnosis. It requires a pathologist. The gynecologist is no better equipped than the general practitioner to make that diagnosis, and the general practitioner is often quite able to make this diagnosis after they once suspect it. But there is a vast majority of general practitioners who really do not know how to make a vaginal examination, and I will stand upon that statement as a fact, and I think I can support it. There are very few general practitioners of medicine who know how to make a vaginal examination. I have over and over again had patients come to me who have been examined by general practitioners who bring them to our clinic, and we ask them if they have made an examination. "Yes." "When? and how?" "In bed." "Under a sheet," perhaps. On the side of a bed, in a poor light, a poor speculum, haven't seen what they attempted to see and when they do see it they don't know how to recognize it if it is an early stage, and if they see something not very suspicious they ignore it, and they do not take a piece from the cervix. It is not an easy thing unless a patient is in a perfectly proper position to put a speculum into the vagina, to expose the cervix and cut out a small piece and send to a specialist, even if the physician thinks he ought to do it. The patient objects; she is afraid of being hurt; she does not realize the importance of it. I think we ought not to stand upon ceremony with each other. The specialist is not attaching any blame to the general practitioner, but we must all acknowledge that skill is impossible in those who seldom make an examination. There is no use in speaking of instances; we have all come across them, where patients have been under observation for months and a year or more by reputable physicians, patients who have been subjects of inoperable cancer of the uterus and the cervix occurring right under their eyes. How is it, therefore — in support of this statement — why is it that five to fifteen per cent of the women coming to our clinics for operation of this disease come too late? As a result of Winter's work thirty to forty per cent of these women are operable. Simply as a matter of education, not only of the public but of the physician — the physician is afraid to ignore these cases, he sees more of the importance of it when the public is aroused. That is the reason I hope that this matter of public education will be taken up, and I would like



to have passed at this session of the Maine Medical Association, or, rather, I should like to have a committee appointed in the proper way, by the President, at his leisure, and known as the "Cancer Commission of the Maine Medical Association," to take up this question of public education — current education in the lines recommended by the "Committee on Cancer of the American Medical Association." They have gotten up pamphlets on the subject which they recommend should be distributed in certain ways, and we do a great deal in this community and in our own communities by following along

those lines, appointing a committee with instructions to report at the next annual meeting of the Association.

Dr. SWASEY: I quite agree with Dr. SHOBER that there are physicians who are not competent to make a vaginal examination, but I do say also that we should insist that those numbers grow fewer, that we should insist that our associates with whom we have any influence should not neglect their patients, but the general practitioner should be expected to do it, and it is our duty as a body of physicians to assist him. I think that standard should be maintained.

## Editorial Comment

RICHARD C. WADSWORTH, M.D., Member Editorial Board

"There is a silver lining to every cloud, and while it is a blot upon the escutcheon of the medical profession that at present we know nothing of the etiology and therefore have no specific for cancer, in spite of the magnificent researches which for years have been carried out in the laboratories of the world, there are signs that these labors will some day be rewarded and that most of us will be alive to join in the paean of victory, when another constellation will be added to the already richly adorned crown which belongs to the noblest profession in the world. Nor are we without consolation at the present time. We are now in possession of certain facts concerning this dreadful disease by which its ravages may be combatted, its mortality diminished and cures obtained, if we only use our knowledge intelligently. A careful study of the pathology, clinical history and statistics teaches us that cancer is primarily a local disease, that it is not hereditary, that it is not infectious, that it frequently is ingrafted upon the irritation following traumatism or some chronic inflammatory process, and that it presents in different parts of the body, even in its incipient stages, certain symptoms, which if not characteristic, at least point to the possibility and suspicion of its presence and which may at least be considered as danger signals, which it behooves us to regard."

Thus did Dr. John B. Shober address the Maine Medical Association at its 58th Annual Meeting at Bar Harbor in June, 1910. In this paper he emphasized the importance of the early recognition, the histologic verification and the early treatment of cancer of the uterus (including cervical cancer). Unfortunately we, fifty years later, have not yet arrived at the goal which Dr. Shober hoped to see attained in his lifetime. We have, however, added new tools and new knowledge to our armamentarium to combat this disease. In 1910 he estimated that from 75 to 80 percent of patients with uterine cancer did not apply for treatment until the disease had progressed too far for anything but palliative measures. He estimated that radical operation, the only effective therapy at that time, was attempted in only about 20 to 25 per cent of the total number of cases of cancer of the cervix and added that unfortunately in from only 3 to 6 per cent of the total number of cases of cancer of the cervix was an operation instituted early enough for the surgeon to circumvent the disease.

We have partially fulfilled the hope of Dr. Shober that carcinoma of the cervix would be recognized earlier. By earlier recognition we now cure approximately 50 per cent of patients having invasive cancer of the cervix. By careful analysis of statistics we have learned the truth of Dr. Shober's statement that this disease must be recognized early if we are to increase our rate of cure. We know that the chance of survival of a Stage I carcinoma are better than twice those of Stage II and eight times better than of Stage IV. Unfor-

tunately we still tend to see many more patients who have advanced to Stage II or Stage III than those who are in Stage I. Consequently, there are still approximately 30,000 women who die each year in the United States from cancer of the cervix. This figure could be tremendously reduced by more frequent and more careful pelvic examinations, adequate visualization of the cervix with proper lighting, adequate biopsy of suspicious areas on the cervix, by a better cooperation between physician and patient and by a better recognition by the physician of his responsibility to the patient.

In 1910 radiation therapy for carcinoma of the cervix had not been made available. It was about five years later that its use was introduced in some of the American clinics. Since that time the technique of radiation therapy has improved to the point that many clinics use radiation therapy without surgical intervention as the primary form of treatment for cervical cancer.

Many of the early diagnoses of cervical cancer are dependent upon the histologic detection of malignant cells in smears or scrapings from the muco-squamous junction at the cervical os or from scars of the vaginal pool. Although the examination of body fluids and exudates for malignant cells was carried out in many laboratories as early as 1910, the wide spread use of cytology in the detection of cervical carcinoma has been accomplished within the last fifteen years. Now many cases of Stage I cervical carcinoma are being recognized before the lesion becomes clinically evident. The application of this technique has led to a great increase in the number of cervical biopsies and cervical conings with increased histologic verification of cervical cancer in the early stages.

Our increased understanding of cervical malignancy has led to the concept of non-invasive carcinoma or carcinoma-in-situ. Although some physicians believe that this may be a reversible lesion it has been well shown that a significant number of these lesions progress to invasive carcinoma. Many of these lesions are discovered by histologic study of vaginal smears, but it is imperative that diagnosis be established by biopsy. Practically all of these cases can be cured by vaginal or abdominal hysterectomy including a wide cuff of the vaginal mucosa but with preservation of the ovaries.

Thus we have improved our methods of diagnosis, classification and treatment of carcinoma of the cervix in the past fifty years, but we have a considerable distance to travel before we can realize the dream which Dr. John Shober depicted in 1910. Before we can arrive at this point an adequate pelvic examination must become a routine procedure, cytologic studies must become a part of the annual physical examination of all women over 25 years of age, and adequate cervical biopsies must be performed on all suspicious cervices. We should not wait for the patients to educate the profession in these matters.



# Listeriosis In Man And Animals In Maine

NELSON P. BLACKBURN, M.D.\* and H. L. CHUTE, D.V.M.\*\*

The purpose of this paper is to review the experience in humans and animals with infection by *Listeria monocytogenes* which has occurred in Maine, and also to review some points which we feel should be emphasized in regard to disease caused by this organism.

Listeriosis was first described in 1926 by Murray, Webb & Swan of Cambridge, England as a disease of animals. It was reported as a disease of sheep in New Zealand in 1931. Since that time the condition termed "circling disease" has been found widespread in the U. S. in both cattle and sheep. The disease has also been found in goats, chickens, turkeys, swine, dogs, horses, and some forms of wild life. Gray<sup>4</sup> in 1951 reported 29 cases in sheep and 23 cases in cattle. The clinical syndrome varied in sheep from circling disease to pharyngeal paralysis. In cattle some cases were confused with poisoning or rabies because of the violent terminal stage of the infection. Listeriosis causing abortion in cattle has been reported many times since 1939. The organism has also been recovered from the brains of calves and lambs of less than one month of age having encephalitis. Japanese workers<sup>7</sup> studied experimental modes of infection. They found that a goat inoculated with *Listeria* by conjunctival installation, although not showing signs of infection, developed lesions along the trigeminal nerve, from the eye to the brain stem. Similar lesions were produced in rabbits and mice by conjunctival installation and inoculation through minute wounds in the lip. They concluded that encephalitic listeriosis invades the oral or nasal mucous membranes and travels along the trigeminal nerve to the brain stem.

The first human cases in this country were reported by Burn in 1932 and since have been reported from various areas in increasing numbers. In man infections of the central nervous system and generalized sepsis with miliary granulomatosis of the newborn account for approximately 60 per cent of the 298 reported cases collected from the world literature by Seeliger<sup>9</sup> in 1955. Other less common clinical manifestations which have been described<sup>5</sup> include generalized adenopathy, conjunctivitis, sub-acute bacterial endocarditis, and a typhoid-like syndrome. Although some early investigators felt that this organism was the cause of infectious mononucleosis, this has since been discredited<sup>5</sup>.

The bacteriology of this disease is well described

elsewhere<sup>2,6,10</sup> and will be only briefly reviewed. *Listeria monocytogenes* is a gram positive motile bacillus which bears close morphologic resemblance to the non-pathogenic group of "diphtheroids." Although the organism usually grows well on the ordinary laboratory media, isolation of the bacillus is occasionally difficult especially from body tissues (as from autopsy material), and special methods for isolation have been described<sup>1</sup>. A most significant point for the bacteriologist to be aware of is that whenever an unidentified gram positive bacillus is seen on smears (especially from spinal fluid) or grown on culture, the possibility of *Listeria* should be considered. Agglutination tests have been described and the anti-sera is commercially available. Although considerable work has been done to date in regard to serological typing it would appear that because of technical difficulties this is not now a feasible diagnostic procedure for the ordinary laboratory to undertake<sup>1</sup>. Confirmation of the suspected culture should be sought from the diagnostic laboratory of the State Health Department.

The following summarizes the proven cases of Listeriosis in Maine to date:

1. In January, 1954 Dr. Chute was presented with a case from Winslow, Maine. Several sheep in a flock had shown evidence of encephalitis. The sheep would circle in one direction for long periods or would press against the side of a pen. The brain from one sheep was removed. The cerebrum and cerebellum were cultured on 5% bovine blood agar. No growth at this time was evident. The brain was refrigerated at 4° C. for 27 days and upon culture at this time a pure growth of *Listeria* was obtained. Since this initial case several other cases have been studied histopathologically which resembled the disease. Sections of the medullary portion of the brain usually show focal necrosis and cuffing by mononuclear and polynuclear cell infiltrates.

2. A two-week old white male infant was admitted to the E.M.G. Hospital on December 6, 1959 because of increasing lethargy of two-days duration. The mother's prenatal course had been uneventful and the term delivery of the healthy appearing child was without incident. Mother and child were sent home in apparent good health. About one week before entry, the mother noted that the child began to take his feedings poorly and two days before admission he developed increasing lethargy and listlessness. Physical examination on entry showed a lethargic, underdeveloped infant with an arched back and stiff neck. The pulse was 120, the respirations 128, and the temperature 101.6° F.

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There was no bulging of the fontanels and the eyes, ears, and nose were unremarkable. No organs or masses could be palpated in the soft abdomen. The total WBC was 34,800 with 71 neutrophils, 12 bands, 15 lymphs, and 2 monocytes. The hemoglobin was 8.7 gms. A spinal tap returned cloudy fluid with a cell count of 9,200 which were predominantly neutrophils. Smears of the fluid showed intracellular gram-positive bacilli. Culture of the spinal fluid readily grew a gram-positive bacillus in broth and on blood plates which was tentatively identified as *Listeria* on differential culture media. The organism was subsequently confirmed as being *Listeria* by the State Department of Health. The child was treated with penicillin, Chloromycetin®, and Gantrisin®, but the hospital course was rapidly downhill with labored breathing and coma. The child expired on the afternoon of the day following admission. Post Mortem Examination (Blackburn) showed miliary granulomata of the liver, adrenals, kidneys, and brain. The lesions in the brain were located in the meninges over the cerebral hemispheres, about the base of the brain, in the ependyma and throughout cortical brain substance. The brain lesions were histologically identical with those described by Hirasawa who has studied in considerable detail the microscopic and gross pathologic changes in the brain lesions of this disease<sup>11</sup>.

The epidemiology of infection by *Listeria* is obscure. The organism appears to be widely spread in nature and shows no apparent respect for geographic boundaries. To date there seems to be no convincing evidence that this is a communicable disease, and the exact mode of sporadic human listeriosis is not known, although there has been extensive worldwide investigative work done with humans and animals. Gray<sup>3</sup> who has done considerable work on the bacteriology suggests that sub-clinical and chronic forms of this disease may exist in both animals and man.

Consideration of treatment by Hoeprich, in a recent excellent extensive review<sup>5</sup>, indicates that the combination of penicillin and Erythromycin® offers optimal therapy of *Listeria* infections. Sensitivity studies show that sulfonamides, the tetracyclines, chloramphenicol, and Carbomycin® are all inhibitory. The mortality rate has been reported as approximately 30%<sup>6</sup>. Early diagnosis and specific therapy would seem to be of utmost important.

#### SUMMARY

*Listeria monocytogenes* is a gram-positive bacillus

with a wide host range including man and animals. Incidence of the various forms of infection by *Listeria* is undoubtedly more common than sporadic reported cases indicate. Awareness of this disease is urged especially of the newborn, in order to recognize more cases. As with other infectious diseases, prompt diagnosis and treatment is important. It should also be noted that sheep production in Maine has increased from 23,000 in 1950 to 46,000 animals in 1960. This increase in sheep production coupled with the fact that the disease has been found in skunk, foxes, and raccoons indicate that we should be alert to the possible transmission from animals to man.

#### ACKNOWLEDGEMENTS

We are deeply indebted to Miss Katherine Kirk, bacteriologist at the E.M.G.H. for considerable time spent isolating and identifying the organism from the case presented from the E.M.G.H.

NOTE: Since the preparation of this paper another human case of listeriosis in Maine has been brought to the attention of the authors<sup>8</sup>. This was in a two-week old infant who was hospitalized with clinical signs and symptoms of acute meningitis. The spinal fluid was grossly purulent and on culture grew a gram-positive bacillus having the cultural characteristics of *Listeria*. Autopsy revealed purulent meningitis.

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# The Risk Of Barium Enema

EDWARD C. PORTER, M.D.\*

The use of the enema in both diagnosis and treatment is generally regarded as a benign procedure. As with every manipulation of the human organism, however, the enema technique carries with it certain hazards, which, because of the rarity of their occurrence and the common usage of the procedure, are frequently forgotten.

The barium enema is, of course, a specialized type of enema employing a specific medium and equipment although, to some extent, the basic risk remains common to any enema.

Anyone who has either performed or undergone a barium enema examination knows that it is far from a simple or comfortable undertaking. However, the complication rate is apparently extremely low despite the formidable (to the patient) nature of the exercise.

In the past several years, a scattering of reports have appeared in the literature citing cases of colonic or rectal perforation during enemata or proctoscopy<sup>1,2,3,4,5,6</sup>.

Nor is trauma the only risk of enema. Steinbach et al<sup>7</sup> among others have reported deaths following enemata in patients afflicted with megacolon which were presumed to be on the basis of water intoxication.

More recently Rosenberg and Fine<sup>8</sup> reported massive embolization of barium believed to arise from extravasation of the enema into hemorrhoidal veins.

The less serious hazard of barium impaction is rarely encountered after barium enema, being more associated with barium ingestion.

The risk of damage to the bowel in the therapeutic use of barium enema in the reduction of intussusception seems to be more theoretical than actual. Ravitch<sup>9</sup>, in a series of sixty-five patients treated by this method, reported no deaths or apparent perforations.

These reports indicate the relative rarity of serious complications following enema of any kind.

In the past five years, 5618 barium enemata have been performed in the Department of Radiology of the Eastern Maine General Hospital. Of this number only two patients have suffered serious complications arising from the examination, a rate of .035%. Certainly this incidence is infinitesimal when compared with the benefits gained from this diagnostic procedure.

The purpose of this paper is to add the two additional cases to the literature as well as to briefly emphasize certain precautions which should be observed to eliminate the threat of tragedy, no matter how minute, from this commonly employed and valued procedure.



FIG. 1. Note Extravasation of Barium Posterior to Rectum.

Case No. 1. This sixty-nine year old white male was admitted to the hospital for the second time with a chief complaint of diarrhea of approximately three weeks duration. Previous diagnosis of metastatic malignancy from cancer of the lung had been established. He had received x-ray therapy for palliation of pain. Recently there had been progressive debility due to progression of metastatic involvement of the spine.

Physical examination revealed marked wasting. Among other findings boggy induration of the anterior rectal wall and pelvic floor was noted. Some narrowing of the rectum was present.

A barium enema was performed with the aid of a balloon catheter which was inserted and distended without discomfort to the patient. No pain or serious discomfort was noted by the patient during the enema. Following the taking of radiographs very little evacuation occurred and films demonstrated extravasation of barium beyond the rectal lumen. (Fig. 1)

The perforation was confirmed at laparotomy performed within two hours, but the patient did not recover from shock and death occurred seven hours following surgery.

Autopsy revealed metastatic neoplasm involving multiple sites including the perirectal tissues where a large mass of tumor lay between the sacrum and the rectal wall. There was a five cm. laceration of the rectum located about three cm. above the anus. Peritonitis was present. In addition, there was an infarction of the myocardium due to arteriosclerotic coronary thrombosis.

Case No. 2. This sixty year old white female en-

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tered the hospital for the first time with a well-established diagnosis of ulcerative colitis accompanied by intermittent diarrhea for many years. In the course of study a barium enema was performed following routine preparation with castor oil. No undue discomfort was noted by the patient during the procedure. The radiographs revealed evidence of ulcerative colitis. Following the enema the patient developed massive rectal bleeding the site of which could not be visualized at proctoscopy. This could not be controlled despite repeated blood transfusions and sub-total colectomy was necessary to stop the hemorrhage. Examination of the surgical specimen revealed no specific bleeding point but microscopic changes consistent with acute exacerbation of chronic ulcerative colitis.

The patient gradually improved post-operatively and was discharged from the hospital.

### DISCUSSION

In Case No. 1 there is evidence of direct trauma to the bowel where, to be sure, there was also evidence of perirectal tumor formation. It is of interest to note that a myocardial infarction was also present and it would be difficult to ascertain what role, if any, this may have played in the death of the patient.

In Case No. 2 there is some doubt as to the etiology and site of the massive hemorrhage. Possibly the cathartic could have played a part in the instigation of acute bleeding. Conceivably the stretching of the bowel mucosa by the in-flowing barium could have produced minute vessel laceration which could have easily been overlooked in the specimen.

At any rate, the barium enema in both cases, seems to have been the precipitating factor in their acute difficulties although both had serious disease involving the colon which undoubtedly predisposed them to this complication.

Most cases of perforation reported in the literature have been accompanied by colonic disease. Of fifty-three incidents reported by Zheutlin, Lasser, and Rigler<sup>4</sup> ten were related to carcinoma, five to diverticulitis, four to ulcerative colitis, two to lymphopathia venereum, and a scattering of single cases related to various other diseases of the colon or adjacent organs.

However, Hartman and Hills<sup>6</sup> reported two cases of rupture in infants with apparently normal colons.

A higher incidence of perforation was noted by some authors when the enema was performed through a colostomy<sup>2,4</sup>. One would suspect that the risk of perforation would be greater in such cases because of the narrower caliber of the bowel and its fixation by surrounding scar tissue close to the stoma.

There seems to be general agreement that once perforation occurs the mortality rate is high. Santulli<sup>1</sup> reported a 66% mortality rate. Zheutlin et al<sup>4</sup> report an overall mortality of 51%. Most authorities<sup>1,3,4</sup> feel that infection is the chief cause of the high death rate.

Most investigators stress certain factors as being

contributory to the hazard of rupture. Among these are: 1) overdistention of the balloon catheter<sup>1,4,6,8</sup>, 2) inserting the catheter or enema tip too far into the colon<sup>2,6</sup>, 3) colostomy<sup>2,4</sup>, 4) inability to control movements of the patient<sup>1</sup>, 5) performance of enema immediately following proctoscopic examination<sup>4</sup>, and 6) clinical findings suggesting perforation or impending perforation<sup>5</sup>.

Among the other hazards described in the introduction the next most common is that of water intoxication in patients with megacolon. Steinbach et al<sup>7</sup> report four patients suffering sudden death and one developing shock following barium enema. This has been thought to be due to abnormal absorption of water from the increased mucosal surface of the dilated bowel although these authors cast some doubt on this mechanism. They do, however, stress certain precautions in performing enemata on patients with Hirschsprung's Disease, namely: 1) the general condition of the patient should be as good as possible, 2) isotonic saline should be substituted for water as the vehicle for barium, 3) limit barium enema to the extent necessary for diagnosis, 4) do not elevate reservoir more than three feet above table, and 5) recover as much fluid as possible after the enema.

At this hospital it has been routine practice for the radiologist to perform digital examination of the rectum before personally inserting the enema tip or catheter when performing barium enema. Certainly this precaution may forewarn the examiner of the presence of a fixed narrow rectum which may presage disaster. This practice did not prevent the two complications reported here but possibly may have been a factor in preventing other incidents.

No cases of water intoxication were encountered in this series of patients although the exact incidence of megacolon in the 5618 enemas is not known. All of the precautions suggested by Steinbach have been observed except for the routine use of isotonic saline.

### SUMMARY

1. Two cases of serious complications associated with barium enema have been reported out of a series of 5618 barium enemas.

2. The low complication rate of .035% has been noted.

3. Certain precautionary measures have been reiterated.

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# Duplication Of The Stomach

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Recognition of duplications of the stomach is important because correct treatment of this congenital anomaly depends upon an accurate understanding of the underlying pathology. Since duplication of the stomach is rare, it is not usually considered in the differential diagnosis of diseases that produce similar signs and symptoms, and at operation the true nature of this abnormality may not be recognized.

Two cases of duplication of the stomach have recently been encountered within a period of one year, and these are reported below. The purpose of this communication is to call attention to the pathology, the clinical manifestations, and the treatment of duplications of the stomach.

## CASE REPORTS

Case I — L. B., a 4-year-old male child entered the hospital on March 15, 1959, because of abdominal pain. For the past three months the patient had complained intermittently of vague abdominal pain. In addition there had been lassitude and some weight loss. Three days before admission to the hospital the patient developed more severe pain in the left side of the abdomen and in the periumbilical region. This was accompanied by low grade fever and diaphoresis. There had been no significant illnesses in the past. The family history was unremarkable.

Physical examination disclosed a thin, well developed male child who appeared chronically ill. There was vague, generalized abdominal tenderness, maximum in the left upper quadrant. There was a soft, rounded, compressible, poorly defined mass in the epigastrium and left side of the upper abdomen. No other abnormalities were found in the remainder of the examination.

Examination of the blood disclosed a hematocrit of 37%, and a white-cell count of 14,500 per cu. mm., with 74% granulocytes and 15% lymphocytes. Urinalysis was normal. Sedimentation rate was 25 mm.

Roentgenograms of the abdomen were suggestive of a soft tissue density in the left side of the upper abdomen. Barium studies of the upper gastro-intestinal tract disclosed that the stomach was displaced medially, posteriorly and inferiorly. The intravenous urogram and barium examination of the large intestine were normal. The precise nature of the mass was not determined before operation. Cyst of the spleen or liver, duplication of

the stomach, and subphrenic abscess of unknown origin, were considered in the differential diagnosis.

On March 24, 1959, operation was carried out through a left thoraco-abdominal incision. The mass was found to be a large duplication of the stomach, and was intimately adherent to the left lobe of the liver, the diaphragm, the spleen, and the omentum. There was a common wall with the anterior surface of the upper third of the stomach, extending to the esophago-gastric junction. The duplication filled the entire left side of the upper abdomen. It was soft, round, appeared bluish on the surface, and contained old blood and clots.

It was not feasible to resect the entire duplication without resection of the proximal third of the stomach. Since such a resection would be undesirable, the majority of the duplication was excised and the remainder, with its attachment to the stomach was marsupialized by suturing its margins to the abdominal wall in the medial aspect of the incision. The marsupialized remnant was packed with gauze, and the thoraco-abdominal incision was closed. The packing was removed gradually over a period of 11 days. There were no postoperative complications and the patient was discharged from the hospital 15 days after operation. The marsupialized pouch gradually closed completely. The patient is living and well 1½ years after operation.

Pathological examination disclosed that the excised wall of the duplication was greyish red and measured 0.3 centimeters in thickness. On microscopic examination the external surface of the wall was covered by flattened mesothelial cells. There was a layer of smooth muscle and fibrous tissue. There were scattered areas of hemorrhage and infiltration of chronic inflammatory cells. There were no epithelial cells lining the inner aspect of the wall.

Case II — J. L., a 3-month-old male infant entered the hospital on November 18, 1959, because of a mass in the abdomen. The infant's mother had first noted the mass five days after his birth, and it had gradually increased in size. There were no symptoms. The patient's birth and development had been normal. The family history was unremarkable.

Physical examination revealed a healthy appearing male infant. There was a smooth, firm, ovoid, non-tender somewhat movable mass measuring approximately 8 centimeters in diameter in the left upper quadrant of the abdomen. There were no other abnormalities found on physical examination.

Examination of the blood disclosed a hematocrit of 43% and a white-cell count of 16,900 per cu. mm. with

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71% lymphocytes and 27% granulocytes. Urinalysis was normal. Non-protein nitrogen was 27 mgm. per 100ml.

Roentgenograms of the chest and abdomen were normal. Barium studies of the upper gastro-intestinal tract were normal except for some displacement of the small intestine to the right and anteriorly. Intravenous urogram disclosed that the left kidney was somewhat displaced inferiorly and posteriorly. Barium examination of the colon was normal. The precise nature of the mass was not determined preoperatively, and the diagnoses considered were neuroblastoma, nephroblastoma, and duplication of the gastro-intestinal tract.

On November 25, 1959, exploratory celiotomy was carried out through a left rectus muscle retracting incision. There were found to be three separate duplications of the stomach. The largest of these was a bulbous, bilocular, firm mass lying in the greater omentum unattached to the gastro-intestinal tract (Figures 1 and 2). The mass was 9 centimeters in length, 4.5 centimeters in diameter at one end and 2.5 centimeters in diameter at the other end. The surface of the mass was reddish brown and appeared similar to gastro-intestinal tract. The second mass was spherical, measured 2.5 centimeters in diameter, and appeared as a protuberance in the greater curvature of the stomach about half way between pylorus and esophagus. Contiguous to this mass, but separate from it, there was a third, long, narrow, sausage shaped duplication, 1.5 centimeters in diameter, extending upward along the greater curvature almost to the esophagus. Both of the latter duplications had a common wall with the stomach, but there was no communication with its lumen.

The mass in the omentum was excised. The spherical duplication was excised in wedge fashion, with the contiguous wall of stomach. The common wall between the long duplication and the stomach was divided upward for a distance of approximately two inches, and hemostasis was secured in the divided margins. This provided a wide-mouthed communication between the stomach and the long, narrow duplication. The defect in the stomach wall that remained at the site of the spherical duplication was closed in layers. The defect in the omentum at the site of the large duplication was repaired, and the abdomen was closed. The post-operative course was uneventful, and the patient was discharged from the hospital 9 days after operation. Subsequently there have been no difficulties, and until the present time the infant has grown and developed normally.

Pathological examination of the spherical duplication disclosed the wall to be 0.1-0.2 centimeters in thickness. The lumen contained clear viscid fluid. Microscopic examination revealed the wall to be composed of multiple layers of poorly oriented smooth muscle fibers. The muscularis of the attached segment of stomach blended with the muscular layer of the duplication.



FIG. 1. Photograph of the Duplication which was Excised from the Omentum in Case II.



FIG. 2. Photograph of the Same Duplication on Longitudinal Section.

The lining was composed of a single layer of columnar epithelial cells.

The large bulbous duplication contained opaque brownish fluid and its wall was 0.1-0.3 centimeters in thickness. The muscular layer was well defined. There was a well developed submucosa with gland formation. The lining was a single layer of mucus secreting columnar epithelial cells.

#### PATHOLOGY

Duplication of the alimentary tract may occur anywhere from the base of the tongue to the anus. The most common location is in the distal small intestine. Only two of the 67 cases of duplication reported by Gross originated in the stomach.<sup>1</sup> Barbosa et al<sup>2</sup> were able to find only 4 cases of gastric duplication in the literature prior to their report in 1952. However five years later there were 28 recorded cases.<sup>3</sup> Thorbjarnarson and Haynes reported two cases of duplication of the stomach treated by them in the period of one year.<sup>4</sup> The relatively rapid accumulation of reports suggests, as does the present report, that duplication of the stomach is perhaps not as rare as it was previously considered.



Stomach duplications, similar to those in the remainder of the gastro-intestinal tract, are round or tubular structures usually intimately attached to the wall of the adjacent normal organ. The mass may vary in size from a few centimeters in diameter to the size of the normal stomach. The attachment to the stomach may be anywhere from esophagus to pylorus, along the greater or lesser curvature or, as in one of our cases, there may be a duplication lying entirely free in the omentum. The entire length of tubular duplications may be intimately attached to the stomach, or there may be a small attachment with the major portion protruding outward, or even through the diaphragm into the chest. There may be a communication with the lumen of the stomach but usually there is none. The surface of the duplication appears grossly similar to that of the stomach, and it is a hollow structure containing viscid fluid which may be clear or hemorrhagic. The wall of the duplication microscopically resembles gastro-intestinal tract, but does not always correspond to the level of the tract to which the duplication is attached. There is always smooth muscle in the wall. The muscle fibers of the duplication form a continuous layer with the muscularis of the stomach at the site of attachment, so that there is a common wall between them. The mucosal lining of the duplication may be intact or, as in case I above, it may be absent in some areas, due presumably to pressure or enzymatic activity of the fluid within. The embryological development of duplications has not been entirely clarified,<sup>1,4,5</sup> and the various theories will not be discussed herein.

#### CLINICAL MANIFESTATIONS

The youngest patient in whom duplication of the stomach has been reported was a newborn infant, and the oldest was 64 years of age<sup>6</sup>. The majority of duplications have been found in children. Sixteen of the 28 cases of gastric duplication collected by Kiesewetter were in the pediatric age group<sup>3</sup>.

Usually gastric duplication can only be suspected prior to establishment of a definite diagnosis at the time of operation. The clinical manifestations generally fall into two groups. First, those duplications which occur near the pylorus may become gradually larger due to their internal secretion of fluid, and produce pyloric obstruction. The history, physical examination, and roentgenographic findings may be very similar to those of hypertrophic pyloric stenosis, even to the character of the palpable mass in the right side of the upper abdomen.<sup>4</sup> Duplications which are close to the esophago-gastric junction may also produce obstruction. Secondly, duplications arising from the mid portion of the stomach do not usually cause symptoms until they attain large size. Then there is pain due to hemorrhage or fluid pressure within the mass, anorexia, weight loss, and a mass may be palpated in the upper part of the abdomen. Roentgenographic studies disclose a space-occupying lesion which displaces or distorts the stom-

ach, intestines, or left kidney. Other entities that may produce similar clinical and x-ray findings include cyst of the pancreas, liver, or spleen, and tumors of the kidney, stomach, and retroperitoneal tissues.

Rarely, when there is a communication between stomach and duplication, and when the duplication is lined by mucosa corresponding to a different level of the gastro-intestinal tract, peptic ulceration and massive hemorrhage can occur, as in the case reported by Nolan and Lee.<sup>7</sup> If the duplication passes upward through the diaphragm, it will present the clinical picture of a mediastinal tumor.<sup>4</sup>

#### TREATMENT

The most important factor in the treatment of stomach duplications is recognition of the fact that there is a common wall between the normal stomach and the duplication. No plane of cleavage can be established between the two, and attempted dissection will demonstrate that the muscular wall of the duplication forms a single layer with the muscularis of the stomach. When the true character of the duplication has been recognized, treatment then becomes an individual problem, depending on the size, location, and extent of attachment to the stomach.

Small duplications, or those with a small attachment, can be excised with the adherent wall of stomach, followed by closure of the gastric defect. Long narrow tubular duplications which are closely applied to the stomach throughout their length can usually be similarly excised. Division of the septum between stomach and duplication, as was done in case II above, should be avoided because the mucosal lining of the duplication may possibly be similar to that of a different level of the gastro-intestinal tract, and therefore susceptible to peptic ulceration with all its sequelae.

Extirpation of large duplications with extensive attachment to the stomach, as in case I, would require major resection of the stomach. Partial gastrectomy, an undesirable operation in children, can be successfully avoided by marsupialization of the duplication. As much as possible of the duplication is removed, and the remaining portion is sutured around its circumference to the abdominal wall. The cavity of the duplication is packed with gauze in order to destroy the lining, and the tract subsequently closes after the gauze is gradually removed.

It is of interest that one case has been reported in which adenocarcinoma developed in a duplication of the stomach adjacent to the pylorus and was manifested by anemia. The patient was 64 years of age. Treatment consisted of radical subtotal gastrectomy, with a good early result.<sup>6</sup>

#### SUMMARY

Two cases of duplication of the stomach are presented. The possibility of duplication of the stomach should

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# Acute Appendicitis – A Ten-Year Survey

ALBERT L. BABCOCK, M.D.\*

A statistical study has been undertaken of primary appendectomy operations performed at the Eastern Maine General Hospital and other regional hospitals during the ten year period from January 1950 through December 1959. The data presented is based on records of those operations performed at the Eastern Maine General Hospital and on pathological diagnosis of all tissues submitted from associated hospitals, 14 in number. According to the 1960 U. S. Census report, the population of the state of Maine has remained relatively stable during this ten year period, a four percent increase noted. Also during these ten years the population served by the hospitals utilizing the services of the pathology department at the Eastern Maine General Hospital has remained essentially unchanged. The total admissions to the Eastern Maine General Hospital have shown a slight progressive increase over the ten year period, from 10,704 in 1950 to 11,811 in 1959. Also the total number of major operations has shown a similar slight overall increase from 2,308 in 1950 to 2,466 in 1959.

By primary appendectomy is meant that in which the operation was performed for a pre-operative diagnosis of acute or chronic appendicitis, and does not include those in which the appendix was removed incidentally at laparotomy for other reasons.

## HOSPITAL ANALYSIS

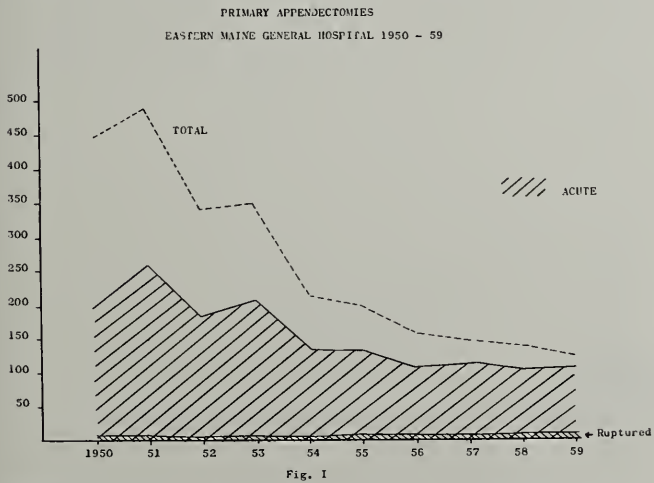
Total appendectomies at the Eastern Maine General Hospital, a two hundred seventy bed community hospital, from 1950 to 1959 are shown in Fig. I. It is noted that there has been a striking reduction in total

number from 487 in 1951 to 124 in 1959, a fourfold decrease. The number of patients in which acute appendicitis was found at operation has progressively decreased steadily as noted in Table I. Fig. II expresses, percentage-wise, the number of appendectomies in which acute appendicitis was found compared to the total operations performed, from an average of 55% in the years 1950 to 1954, to 81% in 1959. The marked decrease in the number and percentage of scheduled "elective" appendectomies in which non-pathological appendices were removed, is shown in Fig. III. Significantly the mortality in appendectomy for the tabulated years 1954 through 1960 as shown in Table I is at an almost irreducible minimum; there being no deaths in 1959.

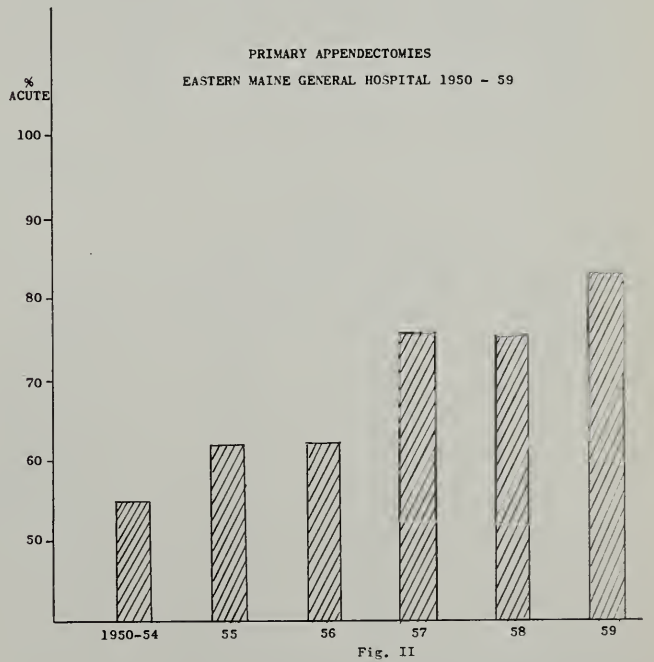
The most notable influential factor for this trend

TABLE I  
PRIMARY APPENDECTOMIES  
EASTERN MAINE GENERAL HOSPITAL

	Total	Acute	"Elective"	Mortality
1954	218	132	30	2
1955	203	126	10	1
1956	168	105	13	0
1957	148	113	7	1
1958	137	102	6	1
1959	124	103	7	0



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of a *relative* rise in appendectomies in which acute appendicitis was found, is that it is initially noted to be significant in 1954, at which time the Staff Tissue Committee was formed. Following 1954, while the *absolute* number of acutely inflamed appendices has progressively diminished slightly, the *percentage* of acutely inflamed appendices to total operations has increased. This, accompanied by the steady decline in total appendectomies indicates increasingly accurate diagnosis of acute appendicitis. Despite this, the percentage of pathologically diagnosed ruptured appendices, as noted in Fig. I, remained essentially unchanged in the past five years, at about 8%, and those few cases in which a mortality has occurred have all been in this group.

EMGH AND OTHER HOSPITALS

A comparison of the experience of Eastern Maine General Hospital with other associated hospitals in total appendectomies is presented in Fig. IV. This demonstrates that while the total number of appendectomies performed at all other hospitals declined roughly parallel to that at Eastern Maine General

Hospital until 1954, since then there has been a slight overall increase. These findings can be partially explained by the fact that during the past five years some patients who previously would have been operated upon at the regional general hospital have been admitted to smaller community institutions. Table II demonstrates, however, that the number of appendectomies performed in other hospitals in which acute appendicitis was found has shown a significant general downward trend. Even more significantly, Table II shows the combined experience of all hospitals with regard to appendectomies performed with the findings of acute appendicitis. This is demonstrated graphically in Fig. V, and represents the incidence of acute appendicitis in a large geographical area in Maine for the past ten years. The curve indicates a progressive decline in the incidence of this disease, which has levelled off in the past few years, and which shows that acute appendicitis is approximately one half as common in this area as it was ten years ago. Since this represents a relatively stable section population-wise, and since similar findings have been reported by others<sup>1,2</sup> the decreased incidence would represent a general trend.

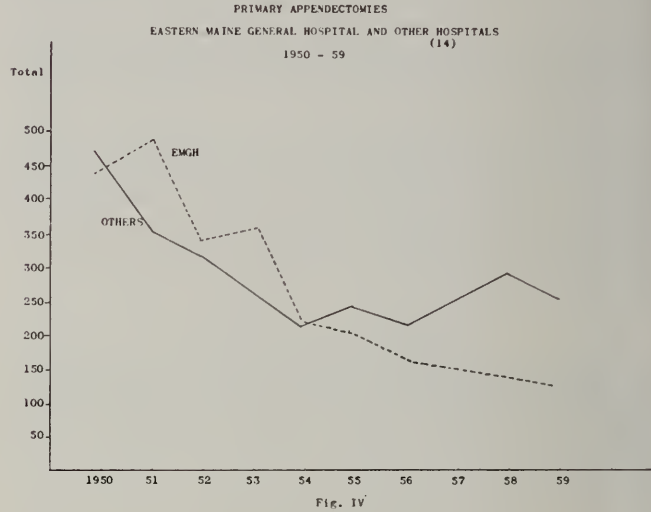
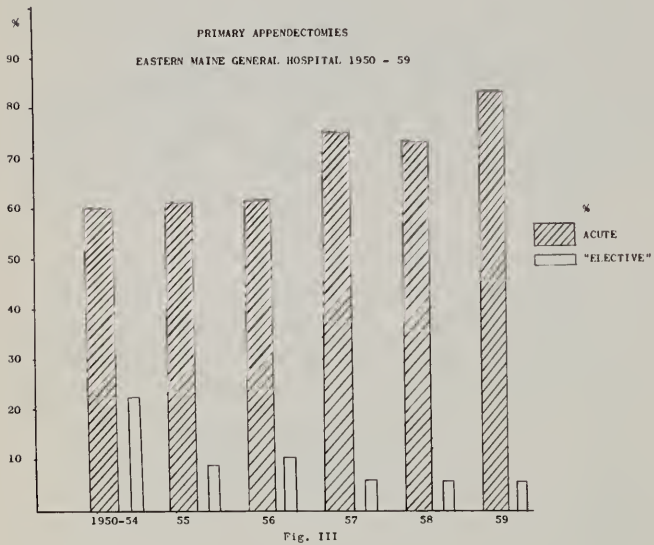
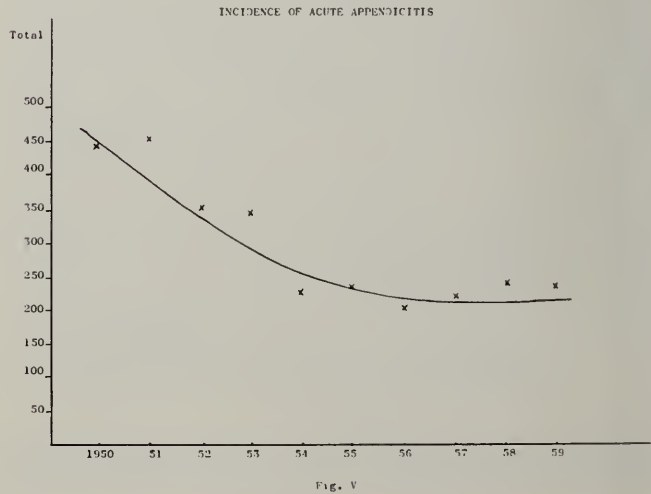


TABLE II

ACUTE APPENDICITIS			
Year	EMGH	Other Hosp.	Total
1950	203	241	444
51	269	186	455
52	181	172	353
53	206	142	348
54	132	95	227
55	126	105	231
56	105	98	203
57	113	110	223
58	102	141	243
59	103	134	237



COMMENT

Despite its reduced incidence, acute appendicitis remains one of the most important surgical emergencies. Notwithstanding the diminishing surgical morbidity and minimal mortality of the disease in this era, there still remains a certain number of patients, especially in the very old and very young age groups, who will be admitted with ruptured appendices or have perforation and generalized peritonitis occur while under observation. Thus many continue to stress the constant awareness of the seriousness and rapid progress which the disease may take, in order to keep the mortality and morbidity at its present minimum<sup>3,4</sup>. On the other hand, as this and other studies<sup>5</sup> show, the urgency of operation in a patient with questionable signs and symptoms is not such that one should neglect all efforts to establish an exact diagnosis in each individual case. This study thus indicates increasing standards of diagnostic endeavor, with the performance of progressively fewer laparotomies.

The underlying medical reasons for the decreased incidence of acute appendicitis, as well as such other entities as carcinoma of the stomach and diffuse toxic goiter, remain obscure<sup>2</sup>.

SUMMARY AND CONCLUSION

Total appendectomies have progressively decreased in the past decade. The factors accounting for this trend are a significant decrease in the incidence of acute appendicitis and increasingly accurate diagnostic endeavors to avoid unnecessary laparotomies. During 1959 acutely inflamed appendices were found in four fifths of operations at the Eastern Maine General Hospital with a preoperative diagnosis of acute appendicitis. There continue to be a few patients with ruptured appendices and generalized peritonitis, accounting for the morbidity and occasional mortality.

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THE RISK OF BARIUM ENEMA — *Continued from Page 423*

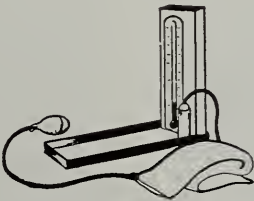
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# Bronchogenic Carcinoma

## Eastern Maine General Hospital 1948-1958

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Bronchogenic carcinoma is such a common widespread highly virulent disease that it deserves the increasing attention it has received from the medical and allied professions, industry, and the public during the past decade. It behooves all general hospitals to review their own experience with this disease so that diagnosis can be sharpened and the currently available tools of therapy, which are unfortunately of extremely limited value, can be properly employed. Such a review is here presented.

During the years 1948-1958, inclusive, one hundred seventy-six patients with proven bronchogenic carcinoma were admitted to the Eastern Maine General Hospital (Table I). The diagnosis in all cases was attested by histological examination of tissue from the primary tumor or a metastasis (Table II). All patients, except one, were traced until death or until 1960. The only patient lost to follow-up, fortuitously named John Smith, was admitted in 1948 and had an exploratory thoracotomy. His cancer was not resectable. It is unlikely that he survived long after he was discharged from the hospital. The reasons for the gradual increase in the number of cases are probably multiple and may not reflect increasing incidence of the disease. Only thirty-four of our patients were from Bangor. Seventy-eight communities in Maine and New Brunswick are represented. Sixty-nine (39%) were house-patients; one hundred seven (61%) were private patients. One hundred fifty-five (89%) were males. In contrast, it is noteworthy that during the years 1947-1948, 29% of all admissions to the Eastern Maine General Hospital were house-cases and 45% were males. In 1958-1959, 25% of all admissions were house-cases and 46% were males.

The age-distribution (Table III) of our patients on admission is higher than some reported series but we are unable to attribute special significance to this difference.<sup>†2,3</sup>

A retrospective look at the records indicates that probably only four patients had no symptoms referable to tumor at the time of establishment of the histological

diagnosis. These four are among the longest survivors. The duration of symptoms attributable to tumor could not be assessed in many patients who suffered from concomitant chronic non-neoplastic pulmonary disease.

One hundred seventy-one patients had diagnostic x-rays of the chest. All of these had some abnormalities in the chest x-ray which, in retrospect, could be ascribed to the cancer.

A positive histological diagnosis was obtained in the one hundred seventy-six cases presented here (Table IV). It is commonly believed that adenocarcinomas predominate in women. Attention is called to the number of squamous cell and undifferentiated carcinomas in the seventeen females in this series of one hundred seventy-six patients (Table V).

TABLE I		
Bronchogenic Carcinoma E.M.G.H. 1948-1958		
ADMISSIONS AND OPERATIONS		
	<i>Admissions</i>	<i>Thoracotomies</i>
1948	7	3
1949	6	0
1950	9	6
1951	9	6
1952	19	9
1953	21	14
1954	18	9
1955	15	10
1956	21	13
1957	24	9
1958	27	11
Total	176	90

TABLE II	
Bronchogenic Carcinoma E.M.G.H. 1948-1958	
HISTOLOGICAL CLASSIFICATION	
Squamous cell carcinoma	67
Adenocarcinoma	23
Bronchiolar carcinoma	7
Undifferentiated carcinoma	64
Unclassified carcinoma	15
Total carcinomas	176

†In the past year, we have seen a 14 year old girl with advanced bronchogenic carcinoma. She is not included in the group reported here.

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\*\*From the Department of Pathology, Eastern Maine General Hospital.

TABLE III

Bronchogenic Carcinoma E.M.G.H. 1948-1958	
AGE DISTRIBUTION	
Age	Number
30-39	3
40-49	27
50-59	48
60-69	64
70-79	32
80-89	2
Total	176
Median age: 61 years	

TABLE IV

Bronchogenic Carcinoma E.M.G.H. 1948-1958	
METHOD OF ESTABLISHING HISTOLOGICAL DIAGNOSIS	
Bronchoscopy	82
Biopsy	(67)
PAP	(15)
Node — biopsy	20
Sputum — PAP	2
Pleural fluid	2
Biopsy subcutaneous tissue	1
Thoracotomy	53
Autopsy	16
Total	176

Bronchoscopy, performed on one hundred fifty-two patients, was not as valuable an aid in assessing operability as some consider it to be.<sup>1</sup> This procedure provided positive bronchial biopsies from sixty-seven patients. In fifteen patients, positive Papanicolaou smears were obtained by bronchoscopy when no biopsy was obtained or when biopsy was negative. Node-biopsy was performed on seventy-six patients, was positive in thirty-two, and was critical in diagnosis in twenty patients. It should be explained that we commonly perform a scalene node-biopsy not only for diagnosis but as an aid in determining operability. The diagnosis was not established prior to thoracotomy in fifty-three patients (59% of those explored). The patients whose diagnosis was first established at autopsy were, for the most part, extremely debilitated on admission and most of them died within a month after admission.

Only ninety patients (51%) underwent thoracotomy (Table VI). This is close to the experience of the Massachusetts General Hospital<sup>2</sup> and the University Hospital in Philadelphia.<sup>4</sup> Fifty-two (58% of patients explored) had pulmonary resection.

For purposes of this study, any patient who died

TABLE V

Bronchogenic Carcinoma E.M.G.H. 1948-1958	
HISTOLOGICAL CLASSIFICATION IN FEMALES	
Squamous cell carcinoma	6
Adenocarcinoma	4
Bronchiolar carcinoma	3
Undifferentiated carcinoma	8
Total carcinomas in females	21

TABLE VI

Bronchogenic Carcinoma E.M.G.H. 1948-1958		
SURGICAL PROCEDURE		
	Number	%
None	86	(49)
Thoracotomy (without resection)	38	(21)
Pulmonary Resection	52	(30)
Pneumonectomy	35	(20)
Lobectomy	17	(10)
Total	176	(100)

TABLE VII

Bronchogenic Carcinoma E.M.G.H. 1948-1958			
OPERATIVE MORTALITY			
	Number Operations	Operative Deaths (30 days)	Mortality Rate
Thoracotomy (without resection)	38	10	26
Thoracotomy (with resection)	52	10	19
a. Lobectomy	17	3	18
b. Pneumonectomy	35	7	20
TOTAL THORACOTOMIES	90	20	22

within thirty days after operation, either in the hospital or out of it, was included in the operative mortality (Table VII). Seven of the twenty explored patients who died were autopsied. One had a proven myocardial infarct. One died of proven pulmonary embolism. Two had proven cerebral thrombosis. Three had widespread metastases and pulmonary abscesses.

Two unautopsied patients died on the operating table following completion of the operation. Both of these had atelectasis of the remaining lung. In one instance, the atelectasis was due to a mucous plug; and in a second instance, atelectasis was caused by a fragment of tumor from the contralateral bronchus. One patient not included in Table VII died on the operating table during



TABLE VIII

Bronchogenic Carcinoma E.M.G.H. 1948-1958 POST-RESECTION SURVIVAL OF TWENTY-SEVEN PATIENTS WHO SURVIVED ONE YEAR OR MORE (Including sixteen living patients)		
<i>Years</i>	<i>Each Period</i>	<i>Cumulative</i>
1	8	27
2	5	19
3	4	14
4	2	10
5	4	8
6	1	4
7	1	3
8	2	2

TABLE IX

Bronchogenic Carcinoma E.M.G.H. 1948-1958 HISTOLOGICAL CLASSIFICATION OF CARCINOMAS Twenty-Seven Post-Resection Survivors of One Year or More	
Squamous cell carcinoma	14
Adenocarcinoma	8
Bronchiolar carcinoma	2
Undifferentiated carcinoma	3

the induction of anesthesia and prior to incision. Autopsy revealed a myocardial infarct. Almost all patients who died within one month after operation had extension of their cancer beyond the primary focus in the lung. From a review of the records, it appears unlikely that any of the patients among the operative deaths would have survived long without operation or if they had survived the operation. Shaw has written, "One shalt not kill, but needst not strive officiously to save life." Perhaps we officiously tried to save life in a few of these instances. It does seem that more intensive, inspired, or enlightened search might have revealed the futility of surgery in some.

Mere survival is a standard but often inadequate criterion for the success of a surgical procedure, and this is true for the surgical treatment of pulmonary cancer. The longest survival among eighty-six patients who were not explored was twenty-two months. Only four of these patients survived more than one year after the establishment of histological diagnosis. The survival of patients who underwent exploration only, that is, who had no resection, is quite similar. Only four of these patients survived beyond one year and the longest survival was twenty-three months. Twenty-seven patients who had pulmonary resection survived longer than one year (Table VIII). Sixteen of the twenty-seven who survived more than one year were alive at

the end of the study-period (1960). Of the eight five-year survivors in the resected group (52), seven were alive at the end of the study-period. Two five-year survivors had proven metastases to nodes at the time of resection. The fact that only twenty patients had resection prior to five years before the end of the study-period, of course, severely limits a calculated five-year survival rate of 40% for this group.

X-ray therapy, including in a few instances super-voltage therapy, was administered to twenty-four patients including both operated and non-operated. We have not tried to evaluate fully the effectiveness of the x-ray therapy. It is our impression that it was more helpful in controlling the symptoms of remote metastases than it was in the treatment of the primary tumor. About a dozen patients received nitrogen mustard therapy. It is our impression that, in the manner we have used nitrogen mustard, it had little or short-lasting palliative value.

SUMMARY

1. During the years 1948-1958, one hundred seventy-six patients with proven bronchogenic carcinoma were admitted to the Eastern Maine General Hospital.
2. At time of histological diagnosis, one hundred twenty-four of the carcinomas were not resectable.
3. Of fifty-two patients who had pulmonary resection, eight have survived five years or longer. Of sixteen patients still alive, nine have been followed less than five years since resection.
4. Two patients who have survived longer than five years had proven metastases to lymph nodes at the time of resection.
5. There appears to be little correlation between cell type and survival rate.
6. Squamous cell carcinomas and undifferentiated carcinomas predominated in the females, as well as in the males, in the group of one hundred seventy-six patients.

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# The Endocrine Palliation Of The Breast Cancer Patient

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All of us use the term palliate very frequently in our daily work, meaning to mitigate or alleviate, i.e., to moderate the severity of, or to make easier to be endured, or as we often say "make the patient more comfortable." If we will stop for a moment to assay our work, we realize there are many diseases that can not and are not cured.

Breast cancer is one of the group of endocrine influenced cancers. They behave differently from the non-endocrine group, such as colon cancer, by being unpredictable as to life span of the patient, rate and site of metastasis. Five year follow-up analysis is not statistically correct. It has been shown that 50% of the patients having a radical mastectomy survive five years, whereas 20% of those receiving no treatment will be alive at the end of five years. It is not unusual for metastasis to appear on the x-ray film five to 15 years after treatment. Regardless of treatment, only 40% of breast cancer patients will be free of disease at the end of 10 years<sup>1</sup>.

The palliation group of patients includes a large number of women. If one agrees that 50% of radical mastectomies are successfully treated cases (10% of these will fall into the palliation group from five to 10 years after treatment), half of the treated cases and those "inoperable" (inflammatory carcinoma, i.e., skin lymphatic invasion and blockage, metastasis outside the operative field, i.e., supraclavicular, lungs, or bone) are included in this group. If one allows a conservative figure of 20% of women with carcinoma of the breast as inoperable, this adds many thousand to the list. According to the American Cancer Society Statistics, 60,000 would develop cancer of the breast in 1958<sup>2</sup>. Adding up the number for only one year, coming into the palliation group would be 36,000 plus. Statistically 48,000 would be operable and of these 24,000 minus would be cured.

Proliferation of breast tissue is dependent on the combined activity of adrenal cortical hormone, pituitary growth hormone, and estrogen<sup>3</sup>. Prolactin is concerned only with secretory function and need not be considered in breast growth. Another hormone associated with secretion is progesterone. Although progesterone has been used in the treatment of breast cancer, the results at this time are not conclusive to warrant further discussion here.

Since Beatson's observations of the effect of castra-

tion on mammary cancer in 1896<sup>4</sup>, Nathanson's extensive reports of use of estrogen<sup>5,6</sup>, and demonstrated beneficial effects of testosterone to patients with breast cancer by Adair<sup>7</sup>, voluminous clinical proof has been compiled to give the hormones a place in the treatment of breast cancer. Investigation continues to increase our knowledge of the effect of hormones on the metabolism of normal and neoplastic cells. Explanation of favorable response of some and not all breast cancers is still lacking. Disregarding age groups at the moment, some cancers are called hormone dependent because their growth is effected by the presence or absence of the hormone in the body. The pathological changes of the cancer after treatment with androgen and estrogen have been reported and correlate with the clinical improvement observed<sup>8,9</sup>. In a study of 59 patients treated with hormones, followed by frequent biopsies, there was nearly complete disappearance of the tumor to sight and palpation in 31% of the primary lesions and 33% of the recurrent lesions. Emerson, W. J. et al. describe the gross and microscopic changes in the responsive cases as follows:

- "(1) Translucent softening of all or part of the tumor with fibrillar loosening of the stroma of the tumor and degeneration of malignant cells;
- "(2) Gradual alteration of such effected areas by increasing deposits of collagen, visible grossly as an increasing opacity of the softened portions;
- "(3) Final formation of dense acellular scar."

There were visible cancer cells remaining in the lymphatics and ducts. In summary, this is a destruction of tumor cells with walling off by fibrous tissue as in radiation therapy.

The physician must follow general principles found to be valid by extensive clinical experience of others, and be sufficiently interested to keep abreast with work in the larger clinics. The general principles are as follows:

- 1) Hormones should be used on only those cases not curable by surgery and radiation, mainly Stage 3 and the Stage 2 cases failing to respond to other treatment.
- 2) Use of only one hormone at any given time and for its duration of effectiveness.

Example:

- (a) oophorectomy and not oophorectomy and testosterone at the same time.
- (b) not a combination of estrogen or testosterone and steroid.

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To date there is not sufficient proof that results are improved by more than one agent at a time. By using combinations it is more difficult to evaluate each drug's benefit, and one soon exhausts the agents available for therapy.

- 3) After a hormone is no longer effective, a waiting period should follow prior to starting another. A remission may be obtained by the cessation of hormone medication.
- 4) Hormones may accelerate the growth of some breast cancers.
- 5) There are serious complications due to undesirable actions of the hormones on some patients.
- 6) Because of 4 and 5, patients must be seen frequently and necessary studies carried out.

If the physician is willing to follow the rules stated, assume a positive attitude in regards to the incurable patient and not one of pessimism, he is eligible to take care of the patient. He must provide words of encouragement, know when to use the endocrines, and be willing to see the patient at regular intervals for close follow up. It is rewarding to see a patient incapacitated by pain return to activity for six months to two years with this treatment.

The essential basic data that should be known and recorded on every patient prior to treatment is as follows:

- 1) Age, date of last menstruation.
- 2) Location and size of initial lesion.  
A statement as to the quadrant and measurement in cm. rather than comparison with fruit or other objects.
- 3) Stage of disease  
Stage I—confined to the breast  
Stage II—spread to local lymph nodes  
Stage III—distal metastases (lungs, bones)
- 4) Inspection of vagina and Papanicolaou Smear of Vagina.

A measure of estrogen activity by proportion of cornified cells.

If there is over 50% cornification, the ovaries are assumed to be active. Gross evidence of senile vaginal mucosa by inspection.

- 5) Alkaline phosphatase.  
It may not be elevated in every case of bone metastasis, but if elevated indicates bone involvement unless liver or biliary tract disease is present.
- 6) Metastatic x-ray series.
- 7) Serum calcium level.  
Particularly important for testosterone therapy.
- 8) Basic laboratory data.  
Hematocrit, urinalysis.

Change in the hormone level of the body can be brought about by removal of the endocrine glands, that is, oophorectomy, adrenalectomy, and hypophysectomy, or by the administration of hormones. The investigators with extensive clinical experience agree that the

first step in treatment should be oophorectomy in those patients with ovaries actively producing estrogens<sup>10,11</sup>. The Papanicolaou smear is a satisfactory guide. If over 50% of the cells are cornified, patient should have an oophorectomy. If the urinary follicle stimulating hormone level is low, it is further evidence of estrogen production by the ovaries, and oophorectomy is indicated regardless of age. These two tests are not of course necessary in a woman still having her menstrual periods. The response to oophorectomy is a good guide as to effectiveness of further hormone therapy. Emerson points out the importance of use of steroids at the time of and following oophorectomy to decrease adrenal production of estrogen during the stress period. Theoretically, this is rational but is not universally done.

Subsequent therapy to oophorectomy and therapy of those patients without oophorectomy (postmenopausal and senile) should be carried out in an orderly manner, but there is no true guide as to selection of drug to be used. Numerous tests have been advocated and tried, but found to be of no value clinically. Baker, Kelley, and Sohler present their sequence of therapy as follows:

I Premenopausal, menopausal, and postmenopausal oophorectomy candidates.

- |                    |                 |
|--------------------|-----------------|
| 1. Oophorectomy    |                 |
| Remission:         | No Remission:   |
| 2. Corticosteroids | 2. Androgens    |
| 3. Androgens       | 3. Chemotherapy |
| 4. Hypophysectomy  |                 |

II Menopausal, postmenopausal, not oophorectomy candidates.

- |                    |                    |
|--------------------|--------------------|
| 1. Estrogens       |                    |
| Remission:         | No Remission:      |
| 2. Androgens       | 2. Androgens       |
| 3. Corticosteroids | 3. Corticosteroids |
| 4. Hypophysectomy  | 4. Chemotherapy    |

The patient should be treated with one hormone at a time and as long as remission continues and then going to the next step as listed. It would seem that Hypophysectomy should be used earlier in the course of the treatment to remove the pituitary growth hormone and adrenotropic hormone. As this entire treatment is only palliative, we should subject the patient to as little surgery and discomfort as possible without denying her reduction in longevity. Jessiman, Matson, and Moore<sup>12</sup> state that the patients most likely to respond to Hypophysectomy are those less than 10 years postmenopausal with a slow growing cancer which has been demonstrated to be hormone sensitive. The average remission after Hypophysectomy is only six months. The same effect can be obtained with hormones. Adrenalectomy has diminished in importance over the years because the same end result is obtainable with corticosteroids.

Estrogens have been found to bring about a remission of 12 months in 40% of patients over five years postmenopausal. They are more effective for soft tissue lesions, however, they do cause ossification in 20%

of cases with bone lesions. The oral dose is premarin 10 mg. three times a day, Stilbestrol 5 mg. three times a day, or ethinyl estradiol 1 mg. three times a day. There are several undesirable effects of estrogens. Elderly patients may complain of stress incontinence. The areolae and nipples usually increase in pigmentation. Sodium retention and edema may be a problem in cardiac patients. A low salt diet should be prescribed while on estrogens. Withdrawal bleeding occurs with cessation of the estrogen and there may be endometrial bleeding while on estrogens. Increased libido seldom occurs whereas with testosterone it is frequent. About 8% of patients will have hypercalcemia. This is a serious complication necessitating omission of all estrogen and the administration of intravenous fluids with cortisone. Hypercalcemia is probably due to acceleration of tumor growth in bone.

In 80% of postmenopausal patients, testosterone will relieve pain of bony metastasis. Only 20% will show objective response by healing of bone metastasis. The favorable benefit to soft tissue lesions is much less, falling to 5% of the postmenopausal group. Testosterone must be given intramuscularly 50-100 mg. three times a week. It should be continued as long as objective and subjective response are favorable. Six months is the average time of benefit from testosterone. There are problems attending the use of this hormone. It always produces virilization, consisting of low pitched voice, hirsutism of face, arms, and legs, enlargement of clitoris, and increased libido. Sodium retention may occur and produce edema. This can be prevented here as with estrogens by using a low salt diet. The most serious complication with testosterone administration is the occurrence of hypercalcemia. It is more frequent with testosterone than estrogen, but this could be due to the selection of patients with bone metastasis for treatment with testosterone. The actual incidence difference is not high, only 6%. Hypercalcemia usually occurs within the first few weeks of treatment. The patient and relatives should be forewarned about the following progressive symptoms: dry mouth, polydipsia, polyuria, nausea, vomiting, mental apathy, stupor, and coma. As mentioned previously, the treatment is early recognition with cessation of medication, intravenous fluids, and corticosteroids. Untreated hypercalcemia may lead to sudden death from heart muscle damage. It is important to have a serum calcium prior to starting and after the first week of therapy. If there is a marked elevation, one should discontinue testosterone. The patient may complain of increased bone pain with the first few injections of testosterone which will then subside unless there is activation of the disease.

Corticosteroids are effective in 30% of patients without ovarian function for nine to 23 months. They are particularly beneficial for the patient with soft tissue lesions, cerebral metastasis with convulsions, hydrothorax, and ascites. The initial dosage must be high, 100 to 300 mg. cortisone, or 30 to 60 mg. prednisone. Aft-

er clinical evidence of response, the dose may be decreased to minimize the complications. These include edema, cushingoid facies, hypertension, aggravation or production of diabetes, peptic ulcerations and bleeding.

#### CASE REPORTS

Case No. 1, is a 69 year old lady who was first admitted to the EMGH on 1/24/57 with a cancer of the left breast of three years duration. The left breast was replaced by a 5x4 cm. ulcer attached to the chest wall. There was no extension beyond the left chest. Her LMP was at the age of 53 years. She was considered inoperable. Biopsy showed scirrhous carcinoma. X-ray treatment was given to the left chest wall, axilla, and supraclavicular areas. Following x-ray therapy, there was necrosis of the soft tissue with increase in size of the ulcer. During the next three years of follow-up in the Tumor Clinic, there was no evidence of extension of the carcinoma distally, but the left chest wall ulcer gradually increased in size to 15-10 cm. Another biopsy of the ulcer revealed undifferentiated carcinoma. Patient was placed on Stilbestrol 5 mg. three times a day. After four months, the ulcer area appeared to be increasing in size, measuring 16x10 cm. with redness of the surrounding skin and an additional medial ulcer 2x1.5 cm. The Stilbestrol was omitted.



PHOTO NO. 1

Patient had a partial remission for two months with decrease in left chest discomfort and decrease in size of ulcerations (by 1-2 cm.). This beneficial effect existed three months. Subsequently, the ulcerations again enlarged and the patient complained of pain in the area of the ulcer. During the past two months, patient has been on Aristocort 4 mg. three times a day with fair results. The ulcer has decreased in size (2 cm.). The base contains healthy granulation tissue, and the patient has been relieved of the burning pain. (Photo No. 1.)

This case is interesting by illustrating a 13 year postmenopausal woman living comfortably with the cancer



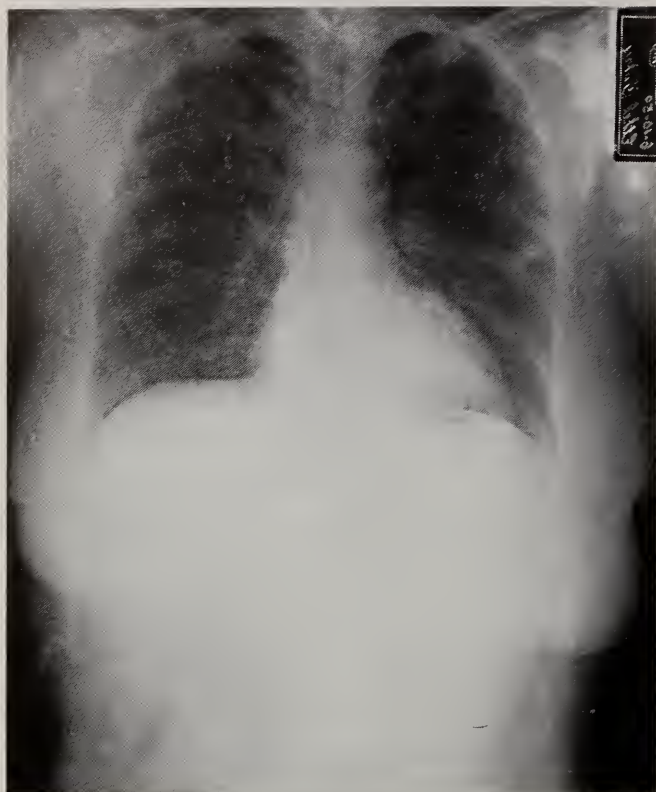


PHOTO NO. 2

confined to the left breast for three years. One could question the value of x-ray treatment here. Certainly the malignancy became more active locally following radiation and has changed from a scirrhous to an undifferentiated carcinoma. She seemed to obtain beneficial soft tissue response from estrogens for four months and further remission for two months after drug withdrawal. Now the disease appears controlled with Aristocort.

Case No. 2, a 53 year old woman, five years postmenopausal, with an 8x10 cm. tumor in the upper middle quadrant of the right breast and palpable right axillary nodes. Chest x-ray showed pulmonary metastasis. (Photo No. 2). There was no evidence of bone involvement. The alkaline phosphatase has been normal. A right simple mastectomy was done on 6/19/59. The pathological diagnosis was scirrhous carcinoma. The patient refused oophorectomy at that time. Papanicolaou smears of the vagina showed estrogen activity. She was discharged from the hospital on testosterone. Patient discontinued the medication after one month because of nausea and malaise. Ten months postoperatively she was seen in the Tumor Clinic. Extensive subcutaneous cancer was growing in the operative scar and 2-3 cm. firm nodes were palpable in the right axilla. The patient finally consented to have an oophorectomy. Eleven months after simple mastectomy a bilateral oophorectomy was accomplished. Chest x-ray showed no change in the pulmonary metastasis. (Photo No. 3) Postoperatively she had x-ray therapy to the right chest. Three months later when seen in the Tu-

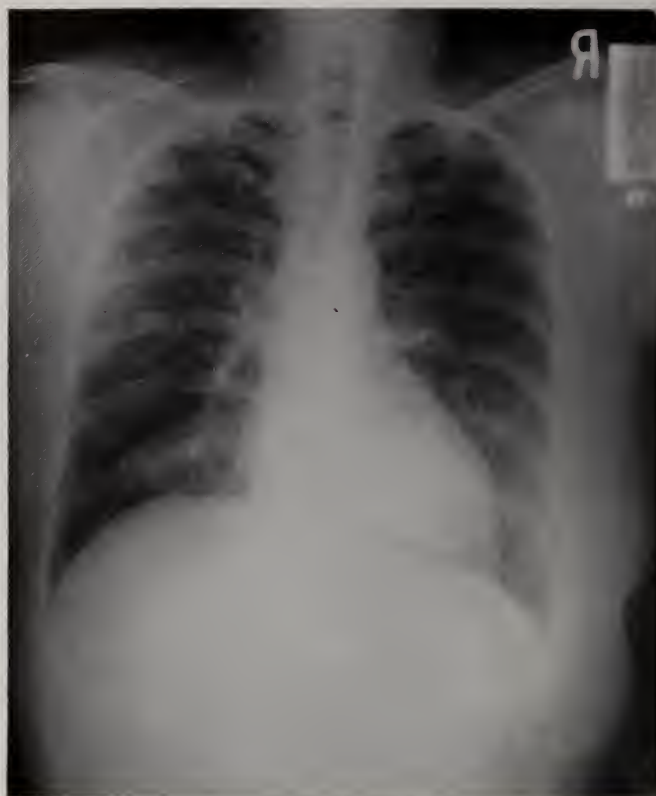


PHOTO NO. 3

mor Clinic, there was no evidence of cancer in the soft tissue of the chest wall and no nodes were palpable in the right axilla. The chest x-ray has not been repeated.

It is difficult to evaluate the effectiveness of either x-ray therapy or oophorectomy, as they were used at the same time. We hope the major benefit was from oophorectomy, providing a good prognostic sign for response to future hormone therapy. It would have been interesting to treat this patient with only oophorectomy, and not simple mastectomy with x-ray therapy. Certainly the simple mastectomy did not accomplish any lasting benefit. The x-ray photos show no change in pulmonary metastasis over an 11 month period without therapy.

Case No. 3, a 43 year old woman having monthly menstruation had a left radical mastectomy at another hospital on 4/19/56 followed by x-ray therapy. The pathological diagnosis was scirrhous carcinoma with metastasis to one axillary node. The patient was first seen at the EMGH Tumor Clinic on 12/31/59 complaining of extensive bone pain of ribs and spine. X-rays showed extensive bone metastasis, ribs, clavicles, scapulae, pelvis, left humerus, and femurs. (Photo No. 4) The alkaline phosphatase was not elevated. On 1/19/60 a bilateral oophorectomy was done at the EMGH. One month later when seen in the Tumor Clinic, she had marked relief of the bone pain. During the subsequent seven months, the patient has continued to improve symptomatically. Repeat chest x-ray on 8/25/60 showed marked healing of the osteolytic lesions of the ribs and clavicles. (Photo No. 5)



PHOTO NO. 4

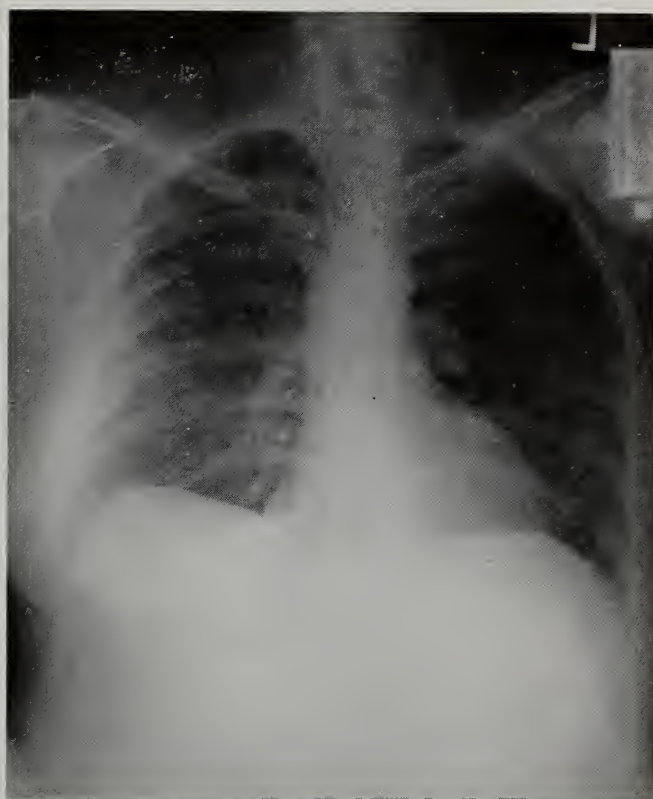


PHOTO NO. 5



PHOTO NO. 6



PHOTO NO. 7

In summary, a premenopausal woman having had a radical mastectomy and x-ray therapy for scirrhus carcinoma, appears four years later with extensive bone metastasis. Oophorectomy has produced excellent subjective and objective response.

Case No. 4. A 44 year old woman, who had all of her surgery at other hospitals, was followed at the EMGH Tumor Clinic for one year prior to her death. In November, 1955 the patient noted a mass in her left breast when eight weeks pregnant. There was a seven months delay in treatment, at which time she had only a simple mastectomy. Three months later a

radical mastectomy was done. The pathological diagnosis was scirrhus carcinoma with two positive axillary nodes. Subsequently, an oophorectomy was performed followed by x-ray treatment of the left axilla, supraclavicular, and anterior mediastinum. On 5/27/59 a 5x7 cm. mass was found beneath the right nipple. A right radical mastectomy revealed a scirrhus carcinoma with 17 of the 19 nodes of the right axilla containing cancer. Postoperatively the patient was given right axillary and supraclavicular x-ray therapy. On 12/10/59 skull films (Photo No. 6) showed bone metastasis. The alkaline phosphatase was elevated. Pa-



tient had increasing back pain for two months. Testosterone, 100 mg. three times a week, gave the patient marked relief of bone pain for five months. In spite of symptomatic relief, the bony lesions progressed as shown in repeat film of skull taken on 5/12/60. (Photo No. 7) X-rays revealed extensive involvement of spine, pelvis, and ribs. On 6/9/60 testosterone was omitted because of increasing bone pain. A month later the patient was unable to come into the Clinic. Her physician described her as rapidly deteriorating with hepatomegaly and jaundice. He was advised to start corticosteroid. Whether this was done is not known. A month later the patient was admitted to the EMGH in extremis. Autopsy revealed extensive carcinoma metastasis to lungs, peritoneum, liver, bones, and adrenals. The brain was not examined.

In summary, a 38 year old woman pregnant at the time of known onset of carcinoma in the left breast. She had poor initial treatment, a simple mastectomy after seven months delay. Oophorectomy was done early without any effect on the later appearance of extensive metastasis. One can assume the right breast cancer was a metastasis from the left side. They were both scirrhous carcinoma and followed each other by only three years. Within six months of her first visit to the EMGH Tumor Clinic and three and one-half years since her initial therapy, patient had extensive bone metastasis. Testosterone produced a fair subjective but poor objective response for five months.

#### SUMMARY AND CONCLUSIONS

The palliative group represents a larger number of women than those cured of breast cancer. Approximately 60% of women with breast cancer will be members.

All of the details of action of hormones on neoplastic cells are not known, leaving many questions to be answered. How does a hormone kill cancer cells? Is it through some antibody or enzyme of the host? Why don't all breast cancers respond the same way to treatment? Even those with the same cell type do not. It would be convenient to have a test available, which

would tell one to which hormone the tumor would respond.

Before administering hormones, one should become acquainted with the history of the cancer and the patient's own resistance to the disease. General principles of therapy must be followed, necessary data obtained, close observation for response of the patient and onset of complications are all necessary for successful therapy.

Four case reports have been presented to demonstrate interesting aspects of this intriguing disease.

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# Pseudocyst Of The Pancreas Treated By Cystogastrostomy

ALBERT C. TODD, M.D. and GEORGE W. WOOD, III, M.D.

The treatment of pseudocysts of the pancreas until recent years was most commonly by external drainage. This always required a long convalescence with the hazard of digestion of the abdominal wall and usually secondary operative procedures. Many forms of internal drainage have been done including drainage by anastomosis to the jejunum, duodenum, and stomach.

A case of pancreatic pseudocyst treated by cystogastrostomy is presented. The patient's age and her brief and uneventful convalescence are worthy of note.

## CASE REPORT

The patient was a 24-year-old married white housewife and mother of four who was admitted to the hospital on May 27, 1959. She had sudden onset of severe pain in right upper abdomen 18 hours prior to admission after eating a baloney sandwich with mayonnaise. Pain radiated to right subscapular area. She was given a hypo at onset by L.M.D. with relief. Pain recurred and there was repeated vomiting. Bowels had been regular and there had been no jaundice.

The past history revealed that she had complained of "stomach-ache" and digestive upsets as early as in 1954 after the birth of her second child. A cholecystogram was done at that time and found to be negative. She continued to have vague symptoms and beginning in 1956 had what is described as typical biliary colic; cholecystogram done again in January 1959 showed several small stones in the gall bladder. In spite of dietary advice she had gained weight during this period from 131 lbs. at age 16 when the first pregnancy occurred to current weight of 200 lbs.

Physical examination showed a very obese, acutely ill white female in acute abdominal distress. Temperature was 101, pulse 100, respirations 24, blood pressure 160/90. The only significant findings were abdominal; there was extreme obesity, many striae, spasm and rigidity in right upper quadrant with marked tenderness and rebound tenderness.

Laboratory findings were Hemotocrit 55, WBC 27,300, Neutrophils 87% with 7 band forms. Urinalysis showed albumin 0.2, sugar negative, a trace of acetone and 6-9 white cells per high power field. Blood urea nitrogen was 20 mg., serum amylase was 250, serum bilirubin was 1.1, direct 1.0 and indirect 0.1.

Diagnosis of acute cholecystitis was made and she was subjected to emergency laparotomy. At operation, the peritoneal cavity contained a great deal of dark

brown fluid; there were many areas of fat necrosis; the pancreas and surrounding tissues were very edematous; the gall bladder contained many small stones and presented no acute inflammation. The stones were removed from the gall bladder and cholecystostomy established; drains were inserted locally and in the pelvis by means of a stab wound.

After a somewhat stormy course, she recovered from this episode. Serum calcium and blood sugar were normal prior to being discharged from the hospital seven-teen days after surgery.

During the first six weeks after discharge she had episodes about once a week of rather diffuse but sharp upper abdominal pain lasting one to two hours and more apt to occur on lying down in the evening. There was infrequent vomiting, no fever, chills, or sweats. These episodes cleared with treatment by antispasmodics and she felt well except for excess gas.

She was re-admitted October 4, 1959 with a history of general malaise for one week, mild anorexia and about three loose stools per day. No foul or fatty stools and no melena. Then five days prior to admission, she noticed enlargement of the upper abdomen. She had meanwhile been dieting faithfully and weight was now 138 lbs. Vital signs were normal. Examination of the abdomen at this time showed healed scars, representing cholecystostomy and suprapubic stab wound; there was a firm, fixed, slightly tender mass in the upper abdomen which approximated the size of a football.

Routine laboratory studies at this time included blood counts, urinalysis, BUN, alkaline phosphatase, prothrombin level, serum amylase, bilirubin, proteins, chlorides, CO<sub>2</sub> combining power, potassium, blood sugar. These were all within normal limits.

Chest X-ray was normal. Upper gastro-intestinal X-rays were interpreted as showing a huge mass posterior and superior to the stomach. (See Photo 1 and 2).

On October 9, 1959, she was operated. The abdomen was opened by a high left paramedian incision. A large cystic mass filled the upper abdomen lying posterior and superior to the stomach. The cyst was opened by a 2.5 cm. transverse incision and aspirated of approximately 1800 cc. of black fluid. A similar transverse incision was made in the anterior wall of the stomach close to the lesser curvature. A two-layer anastomosis was done between the opening in the pseudocyst and the opening in the stomach. The abdomen was closed without drainage.



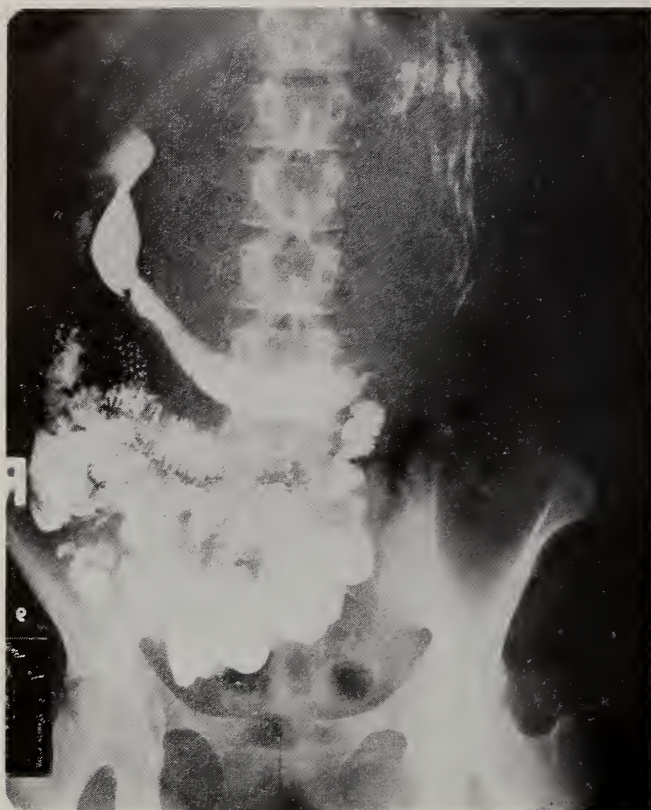


PHOTO NO. 1



PHOTO NO. 3

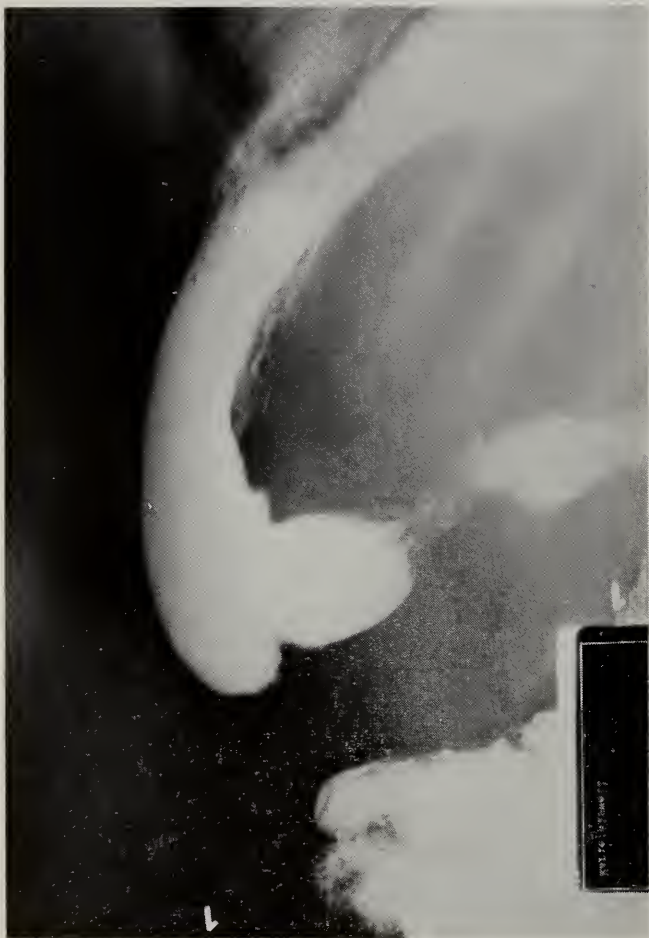


PHOTO NO. 2



PHOTO NO. 4

Postoperative convalescence was without untoward incident. There was no elevation of temperature or pulse. Nasogastric suction was maintained for 48 hours after which the patient tolerated a soft low fat diet. Diastase done on the fluid removed was 256 units; calcium Sulkowitz 3 plus. The wound healed readily and the patient was allowed to go home on the tenth post-operative day.

Follow-up course at home remained symptom-free. On January 4, 1960 patient's weight was 142 lbs. and a Gastrointestinal series was done. This was reported as normal with complete absence of any sign of mass lying behind stomach. (See photo 3 and 4).

The patient remains totally asymptomatic.

#### SUMMARY

Cystogastrostomy seems to be a suitable way to establish internal drainage of pancreatic pseudocysts. This procedure consumed 65 minutes operating time and only a ten-day postoperative convalescence. The cyst space appears to be rapidly obliterated and there was no evidence of any difficulty from gastric contents entering the cyst cavity.

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#### DUPLICATION OF THE STOMACH — *Continued from Page 426*

be considered in children and infants with obstruction of the pylorus, or upper abdominal pain and a palpable mass. Diagnosis is usually established at the time of operation. Recognition of the fact that gastric duplications have a common wall with the stomach at the site of attachment is of primary importance. Extirpation of the duplication with the adjacent wall of stomach is the treatment of choice, but large duplications should be treated by marsupialization, rather than by extensive gastric resection.

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# Cherubism

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Cherubism is a disease affecting the upper and lower jaws of children showing a definite hereditary pattern. It is manifested by bilateral swellings of the jaws, thus giving a rounded chubby or cherubic appearance to the face. For this reason this disease entity was first given its name in 1933, by Jones<sup>1</sup>, who first described this pathological process and reported several cases in a single family. This syndrome has also been reported as: familial intraosseous fibrous swellings of the jaws, familial osseous dysplasia of the jaws, familial fibrous dysplasia of the jaws, familial multi-locular cystic disease of the jaws, symmetrical fibrous swelling of the mandible, and familial incidence of bilateral giant-cell tumors of the jaws. The condition is usually felt to be self limiting, beginning at about age two or three years, and diminishing after the age of puberty.

The purpose of this paper is to present three preliminary case reports which involve two families. Through the literature, cases involving fifteen families have been reported. The cases reported here are diagnosed as cases of cherubism upon their familial history, clinical examination, and roentgenographic examination. It is anticipated that, at a later date, these patients may be followed, worked up, and reported in detail in a subsequent paper. Since there has been only a limited number of cases reported, it is felt that the addition of three more cases to the literature would be worthwhile.

## CHARACTERISTICS OF THE DISEASE

The extent of involvement in these children is limited to the mandible and maxilla, thus causing an alteration in facial appearance. The dentition in these cases may also be markedly altered. The facial appearance of children involved may vary markedly depending upon the severity of involvement. Characteristically, starting with minimal involvement, the angles of the mandible are most commonly involved. There are irregular bilateral enlargements of the bone in this area giving the child a square-faced or "chubby" appearance, which may or may not progress to more severe involvement. Cases have been presented where the entire mandible is involved including the symphysis area. The maxilla may be involved as well as the mandible but is usually not affected alone. When there are lesions appearing in the maxilla they are usually found in the tuberosity areas, also appearing bilaterally. These bony enlargements may progress to such a size that the skin of the face is drawn taut, causing the sclera to be exposed between the iris and the lower eyelid. Several cases of such extreme involvement have been described by Jones<sup>2</sup>, and later by Seward<sup>3</sup>.

The expansion of the jaws may cause marked sep-

aration of the teeth and an extreme malocclusion. A partial anodontia is usually noted in involved areas. Teeth that are formed in these areas may be malformed, twisted or bent and may tend to grow or erupt in an extremely abnormal pattern. Some of these teeth may never erupt, and may lie horizontally within the jaw structure or actually upside down.

The occurrence of submaxillary lymphadenopathy has been reported in some cases (1,2,3,4,5) but it is not an essential feature of the disease. This regional adenopathy is felt by some to be secondary to gingival inflammation due to the malposition and malformation of teeth (5). Jones and co-workers<sup>2</sup> removed several enlarged lymph nodes from their patients. Histological examination showed thickening of the capsule and fibrosis of the glands. They speculate that this may represent a part of the dysplasia or it may represent a subacute inflammatory response secondary to the mechanical irritation of the expanding cysts. They do state that the swelling of the glands also regressed and was not demonstrable during adolescence.

All these children appear to be normal at birth. The first symptom of abnormal enlargement of the jaws usually appears at about two to four years of age. In the first two years after onset the swelling may increase rapidly then advance more slowly until the age of puberty. At the age of puberty a progressive improvement may occur and a marked decrease in the size of the jaws may be expected. However, this is not always so. Jones<sup>2</sup> reports three patients whose cherubic appearance became grotesque as young adults and they had to be operated on to improve their appearance.

## ROENTGENOGRAPHIC FINDINGS

Roentgenograms may show a great expansion of the mandible with a polycystic appearance. The teeth in the involved areas may be missing, grossly distorted and malposed. These findings may occur in any part of the mandible and in the tuberosity areas of the maxilla. X-ray examination of the rest of the skeleton is normal. The roentgenographic picture of the adult who has regression of the disease may show a more normal configuration but usually shows remnants of the process such as some cystic areas and areas of sclerosed bone. Some of these sclerotic areas have been described as cementicles by Talley<sup>6</sup>.

## PATHOLOGY

Jones and co-workers<sup>2</sup> described the tissue found during operation to correct facial deformity. They stated that where the tumor masses had perforated the cortical plate there was no over-lying periosteum, and fatty fib-

rous masses with no capsule were encountered escaping from the bone and mingling with the tissue of the cheek. They stated that the bone was sclerotic and thick and not of the egg-shell character expected. There was no demarcation in the cystic areas but fatty fibrous tissue seemed to blend into tougher tissue and hard bone.

Histologically Jones<sup>2</sup> describes this tissue as resembling giant cell tumor of bone but states that the stroma was more generally of the spindle cell variety and showed more collagenous intercellular deposits. In certain parts it was entirely fibrous with no giant cells. It was considered that the process was a fibrous dysplasia of bone with a partial shift to the osteolytic phase of bone metamorphosis with numerous giant cells and increased vascularity.

Waldron<sup>7</sup> has reported three cases in which he describes the histopathologic picture as that of multiple giant cell tumors of bone.

#### DIAGNOSIS

The diagnosis of this disease can be made upon clinical examination, x-ray examination and positive findings of inheritance factors. Biopsy and further laboratory studies can be included if there is any doubt as to the diagnosis. It has been shown, however, in all reported cases, that blood chemistries done, such as the determination of serum calcium, phosphorus and alkaline phosphatase, have all been within normal limits and have contributed nothing to the diagnosis. As yet no investigators have been able to link this syndrome with hyperparathyroid activity (osteitis fibrosa cystica) on the basis of laboratory and physical examination. To my knowledge there are no other diseases reported that follow the pattern described in this fashion; a familial background, *bilateral* involvement *limited* to the jaws and a pattern of progression starting in early childhood and regressing at puberty.

#### ETIOLOGY

The etiology of this disease is, of course, unknown except for its inheritance characteristics. It is felt by many who give it a special classification that cherubism is a type of fibrous dysplasia. Gold<sup>8</sup> feels that this should be within the framework of fibrous dysplasia and states: "These lesions, which, because of their alarmingly rapid initial growth, command attention, represent extreme expressions of osteogenic fibroma." He feels that there may be a good deal of over-lapping of these lesions which may represent one of the many possible developmental stages of fibrous dysplasia.

Jones<sup>2</sup> states that he differs with his co-workers and feels that the lesion which is found only in the teeth bearing areas and which is not present in any other bone must have some relationship to the development and growth of the teeth. His co-workers disagree, feeling that this is probably a bone dysplasia. It might be interesting to note here that the only histopathologic specimen showing nests of epithelium is described by

Balogh<sup>9</sup>, and these were described as Malassez's epithelial rests. Talley<sup>6</sup> has a tendency to agree with Jones that this disease has a dental origin, and feels that sooner or later this rare bone dystrophy may be reclassified as a familial odontogenic fibroma.

It is felt by Small and Young<sup>10</sup> that the entity is closely related to reparative giant cell granuloma histologically but not clinically. They state that it would seem preferable to classify the disorder as a dysplasia of bone but as a type distinct from fibrous dysplasia.

It is my opinion that the clinically descriptive term cherubism be best used to designate this particular disease entity until further light is shed upon the etiology and pathology of this syndrome.

#### TREATMENT AND COURSE

Several cases reported have been treated with x-ray therapy with no apparent effectiveness. As a matter of fact, x-ray treatment could prove very detrimental since the necessity for the removal of teeth at a later date could very well cause osteoradionecrosis with all its extreme complications. Surgery seems to be the only course of treatment and there is some divergence of opinion as to when it should be best utilized. The general feeling of most of the authors is that surgery is best withheld until after the age of puberty. The reason for this is that in many cases it may not be necessary at all because of spontaneous regression of the lesion and, secondly, some authors feel that surgery at an early age may only stimulate growth and necessitate more than one procedure. Other investigators have instituted surgery at a younger age and feel that they have achieved satisfactory results. Surgical intervention is admittedly used for cosmetic purposes only, that is, to reduce the size of the jaws. Due to the extensive involvement of these lesions no attempt whatsoever is made to completely eradicate the lesions surgically.

The teeth also present a major problem. Many of these patients have to have poorly formed and malposed teeth removed and may eventually wear full upper and lower artificial dentures. The number of missing teeth and the malformation of teeth is, of course, in a direct relationship to the degree of involvement. The prognosis is usually good and many cases that have had considerable involvement during childhood show practically no noticeable facial deformity when they reach adulthood.

#### CASE REPORTS

##### Case 1, Family 1.—

A five year old white girl was referred to my office by her family dentist on July 11, 1960 to have her jaws examined. About six months previously it had been noted for the first time that the child was developing a "square" shape to her lower jaw. No special significance was placed upon this enlargement, which was barely noticeable.

Three months prior to examination she became ill





FIG. 1. Case 1. The photograph shows the fullness over both angles of the mandible due to the swellings of her jaws.

and was taken to a pediatrician for treatment. The following history of examination and treatment was contributed by her pediatrician:

The patient was first seen on April 11, 1960, with a complaint of recurrent fever following an attack of "flu" two months previously. Two weeks prior to being seen, she had "mumps" with a fever rising to 104°. With this, she developed swelling under the jaws with some bunches under her chin. Two days prior to being seen she developed a cough.

P.E. The child was pale with bilateral moderate sized lymph nodes in the cervical regions. In addition the jaw bone had a peculiar protuberance which suggested tumor formation.

It was suggested that the child have chest, neck, bone, and jaw x-rays, as well as blood studies and a tuberculin test. She was started on ilosone temporarily until these studies could be accomplished.

Lab. work:

Hgb. 11.4 gms.	Neut. 54%
Rbc. 3.6 million	Lymp. 38%
Wbc. 12.5 thousand	Mono. 5%
	Eos. 3%

Hematocrit 39%

Sed. rate 25 mm/hour — Uncorrected (Wintrobe)

Stool examination — negative for pathology



FIG. 2A. Case 1. The left lateral oblique film of the mandible demonstrates a multicystic appearance and shows a disturbance in formation of the lower second bicuspid tooth bud.



FIG. 2B. Case 1. The right lateral oblique film of the mandible shows the same polycystic appearance.

Chest films showed spotting in the hilar regions. Irregular calcifications in the neck area were consistent with calcified glands. Lower dorsal lumbar spine and pelvis films were negative. The mandible showed circumscribed areas of possible cystic changes.

On April 19, 1960, the child's temperature continued to be elevated, although to a lesser degree, despite Ilosone® therapy, but she felt much better. However, a positive tuberculin test, with the x-ray findings, and a slightly elevated sedimentation rate, was convincing evidence that there was active glandular tuberculosis, so she was started on Isoniazid®, as well as on Incremin® with iron for the obvious anemia.

When seen again on June 8, 1960, the child felt fine, had gained two pounds, and was running no fever. The glands in the neck were smaller and were neither irritated nor tender. A repeated sedimentation rate (corrected) was 6mm/hour (Wintrobe). The hematocrit had risen to 42% so the Incremin with iron was discontinued. She has continued on isoniazid therapy.



FIG. 3A. Case 2. The cyst-like areas involve the entire left body of the mandible and a good part of the ramus.

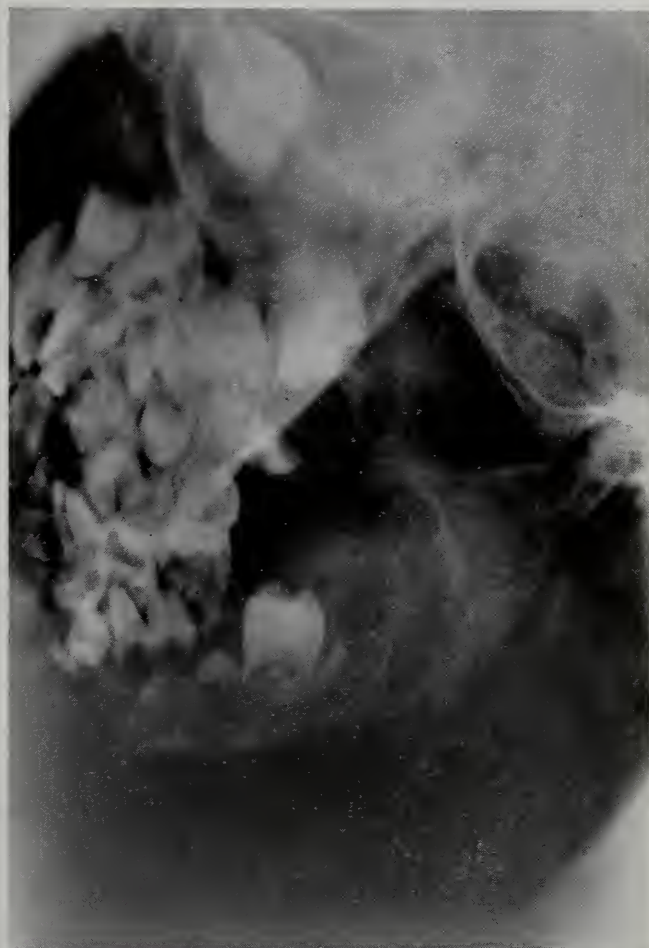


FIG. 3B. Case 2. A large cyst-like area can be noted in the tuberosity of the right maxilla, as well as extensive involvement of the right mandible.

**Family History:** The child has two brothers, age three and two, who have no clinical evidence of jaw enlargement.

The patient's mother and two sisters have no clinical evidence of any abnormal jaw enlargement. A fourth sister, however, had quite extensive jaw enlargement. This began as a child and continued to be very obvious through her teens, causing her to have a "terrible complex." It is remembered by other members of the family that this sister was very susceptible to swollen glands as a child and when she had the mumps her neck was swollen so badly that her mother had to tie a cloth around her face "to hold them in place." There was no treatment instituted, but over a period of time several dentists and physicians evidenced interest and roentgenograms were taken. This was referred to as "elongated jaw bones." She, like her father, has only twenty-six permanent teeth. These teeth are apparently normal and at approximately age twenty-five the enlargements of her jaws are hardly noticeable.

The girl's maternal grandfather had enlargement of his jaws as a child, which gave him a "square-jaw" appearance. As he grew to adulthood this enlargement became less, and is now hardly noticeable. To the best

of his knowledge he was the first in the family to have this problem. There was never any treatment instituted. It is interesting to note that he had only twenty-six permanent teeth instead of the usual thirty-two. Apparently his dentition served him well until recent years when they were extracted. He now wears full dentures.

**Examination:** There was a definite fullness of the jaws giving a square or chubby appearance to the face. (Figure 1) Palpation of the jaw revealed hard, nontender, enlargements on each side extending forward from the angle area. Slight submaxillary lymphadenopathy was noted bilaterally.

Intra-orally the enlargements were more obvious. In addition to a general widening of the mandible in the molar areas, there were several discrete bumps located on the lateral surfaces of the jaw. These were also in the molar areas. The overlying mucosa was stretched very thin over these elevations appearing slightly bluish, as might be seen in mucosa overlying a cyst. These enlargements were very hard, and no crepitus could be felt on pressure. All the deciduous teeth were present, in good condition and in good occlusion and alignment.

**Roentgenographic examination:** Lateral jaw films

*(Continued on Page 448)*



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FIG. 4A. & B. Case 3. The roentgenograms do not demonstrate discrete radiolucencies, but seem to show more of a "moth-eaten" appearance.

were taken (Figure 2) which revealed multiple overlapping radiolucencies located in the ramus and body of the mandible. No abnormalities could be noted in the maxillae. While the upper six year molars are erupted and in good position, it can be seen that the lower six year molars are unerupted, and seem slightly malformed. The tooth bud of the lower second bicuspid on the left is missing or delayed in development.

**Prognosis and Treatment:** No surgical treatment will be instituted until the child is older, and then it will only be done if it seems necessary for cosmetic and social reasons. In view of the characteristics of the disease, it is felt that the prognosis is excellent.

#### Case 2, Family 2.—

In December 1957, a white boy, age six, was referred to my office by an orthodontist who had first examined and took roentgenograms of his jaws four years previously, because of bulging of his jaws in both molar areas. The boy had been seen periodically and lateral jaw roentgenograms were taken every year.

In 1955, the child was sent to Boston where he was examined by an oral surgeon who apparently made no diagnosis but did suggest that surgery be performed to allow some of the permanent tooth buds to erupt. The

boy's father was reluctant to have any surgery done and preferred to wait for awhile. The surgeon then suggested that the boy be evaluated again in a year. The family did not return to Boston again for this purpose and the local orthodontist continued to follow the child here.

When examined in my office in 1957, the following family history was given: The paternal grandmother had enlargement of her jaws and the boy's father also had jaw involvement. At age six the father had two "cysts" removed from either side of his jaw in Boston. Six years later he was again hospitalized to have his jaws "straightened." The father's two sisters and one brother have no involvement. As far as can be presently determined two of the children, a boy (case 2), and a girl (case 3), have involvement of their jaws and the two younger children do not.

The boy had no noticeable deformity of the jaws except for a slight chubbiness. Palpation of the mandible did reveal hard, bulging enlargements of the jaw structure, particularly in the molar areas. Extra-oral examination showed no marked deformities. There was a bulging bilaterally in the area of the mandibular angles. This was not cosmetically objectionable. Pal-

pation, both extra-oral and intra-oral, revealed these masses to be rounded and hard, an integral part of the mandible itself.

Intra-orally there was an enlargement in the right tuberosity of the maxilla as well as bilateral mandibular enlargement in the molar areas. Several teeth were missing but the occlusion overall was acceptable.

Roentgenographic examination revealed a polycystic appearance of the bone in both mandibles, involving all of the body of the mandible and a good portion of the verticle ramus (Figure 3). There was also a large radiolucency in the tuberosity of the right maxilla. The lower six year molars were unerupted but were in good position and were fairly well developed. The upper six year molars seemed malposed and were also greatly lagging in development. The teeth in the lower anterior area were malposed, one being completely inverted, and were malformed, one showing an "S" shape.

No laboratory studies or biopsies were done or suggested. By history, clinical, and x-ray examination, the diagnosis of cherubism was made. It was suggested that he be followed and re-x-rayed in six months which has been done. The orthodontist has continued to follow this patient. The most recent roentgenograms (Figure 3) were taken on September 12, 1956, at age six.

Case 3, Family 2.—

The younger sister was age four when examined by the orthodontist, on May 20, 1957, when it was discovered that she had the same "bumps" on her jaw that her brother had on his jaws. I have never had the opportunity to examine this child but have procured her roentgenograms from the orthodontist. These films were taken in May 1960, at age seven (Figure 4).

There is a "moth-eaten" appearance to the bone in both mandibular molar areas. There seems to be a more definite radio-lucency in the anterior region. The six year molars are erupted and are in fair position. The other molars are malformed and some are missing at this stage. According to the orthodontist's records there is a large bunch on the lingual surface in the lower anterior area. Small dental films show the lower anterior teeth to be grossly malformed, and malposed, lying partially in a gross radio-lucency.

#### DISCUSSION

The three cases presented fulfill the requirements for diagnosis of this pathologic process. None of these seem at this point to represent severe involvement. It

is my intention to follow these cases if possible to better chart the course of the disease. It may be possible to eventually get a biopsy, particularly if some teeth have to be removed.

#### SUMMARY

Three cases of cherubism in two families have been reported. The literature has been reviewed and cases involving fifteen families have previously been reported. Patients with cherubism have lumpy enlargements of the lower and sometimes upper jaws, always bilateral in nature. There may be associated regional lymphadenopathy and the dentition may show definite disturbances in development and eruption. These swellings start at age two to four and enlarge until the age of puberty, at which time there is a tendency toward regression. There is also a strong hereditary relationship. The etiology is unknown. The strongest leaning is to classify it as a type of fibrous dysplasia of bone. However, the jaws are the only part of the body involved.

Treatment is surgical and is only used to improve appearance, with no attempt made to remove the entire lesion.

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50 Penobscot Street, Bangor, Maine



# Clinicopathological Exercise

Case Presented At Eastern Maine General Hospital, Bangor, Maine

Discussed by

ARTHUR N. LIEBERMAN, M.D.\* and RICHARD C. WADSWORTH, M.D.\*\*

## PRESENTATION OF CASE

This 68 year old housewife was admitted to the E.M.G.H. on 1-7-59 because of "feeling poorly." She was a poor historian, but said that approximately two months prior to admission she had noted a change in her fingers. They turned purple when cold and were tender to touch. Since that time she has kept her hands out of water. They seem to have improved slightly recently.

Two months prior to admission she had a "cold" which was manifested by a stuffed nose, a mild non-productive cough, but with considerable malaise and cold feelings. There were no chills, fever, chest pain or sputum.

On 11-4-58 she saw her physician because of "aching all over," cough, shortness of breath and wheezing at night. She had some stiffness of her hands and some swelling of her legs, the left more than the right. At that time her blood pressure was 138/74 mm. Hg. Heart seemed slightly enlarged with  $A_2$  greater than  $P_2$ . Blood studies at that time revealed a hypochromic, microcytic anemia with Hct. 40%; RBC 5.22 million; WBC 5,800; M.C.V. 77 cubic microns; M.C.H. 20.5 micro-micrograms; M.C.H.C. 26.5%; a two-plus stool guaiac; and a negative urine. Her weight at that time was 157½ lbs. She was treated with iron and vitamins and on 11-20-58 was started on Thiomerin® (2 cc.) On 1-1-59 she was digitalized and was given ammonium chloride. She developed fluid in her left chest; her fingers became worse and she developed slight edema. Hospitalization was advised.

There have been no headaches, fainting spells, or dizzy spells. There have been no paralyses, pareses, paraesthesiae or ataxia. She has had palpitation for years.

Physical examination reveals an elderly, well-developed and well-nourished white female appearing chronically ill but in no acute distress. Temperature 98.6°F.; pulse 92; respirations 28; blood pressure 160/95 mm. Hg. Her skin appears shiny, thickened and tightened on her hands, feet, lower legs, and perhaps a little on the face. The skin on the tips of the fingers is scaling and on the right first finger appears gangrenous. The hair and nails appear normal. The corneae and sclerae are clear. The pupils are round and regular and react to light and accommodation. Extra-ocular movements

are normal. The visual fields are grossly intact. The fundi are not visualized. The mouth is edentulous. The tongue is dry, beefy, and smooth. There are streaks of white exudate on the pharynx. The thyroid is not enlarged. The chest is clear to auscultation and percussion. The diaphragms move moderately well. The heart has normal sinus rhythm with occasional premature ventricular contractions. The PMI lies 11 cm. to the left of the mid-sternal line in the fifth intercostal space. There is considerable thrust. There is a grade II to III harsh, blowing, systolic murmur heard all over the precordium and is loudest at the base.  $A_2$  is greater than  $P_2$ . The abdomen is soft with no tenderness, masses, or palpable organs. There is CVA tenderness. There is a trace of sacral edema. Pelvic examination shows a pessary in place which was not removed. No adnexal masses could be palpated. Deep tendon reflexes were bilaterally symmetrical. The triceps and ankle jerks could not be elicited. There was a withdrawal response to plantar stimulation.

Venous pressure (1-9-59) 80 mm. saline.

*Bacteriology: Urine Culture:*

1-19-59 — B. coli and Staph. albus (non-resistant).

1-23-59 — B. coli, staph. albus and gram positive rods.

E.C.G.: (1-8-59) Low T wave throughout; slight depression of S-T in II, and V-6.

U larger than T in V-2 through V-4.

X-Rays A 74,105 *Chest* (1-7-59): Cardiac enlargement principally in the region of the left ventricle.

*Upper G.I.:* (1-8-59): Small traction diverticulum. Small diverticulum of duodenal loop. No demonstrable lesion of stomach, jejunum, or ileum.

*Hands* (1-16-59): No significant abnormalities of bones or joints.

*Chest* (1-18-59): No change since 1-7-59.

*I. V. Urogram* (1-18-59): Unsatisfactory. No demonstration of function on either side.

*Retrograde Urogram* (1-21-59): Normal urinary tract.

*COURSE IN HOSPITAL:* The patient followed an afebrile course throughout her period of hospitalization. On 1-12-59 the skin of the anterior aspect of the left ankle was biopsied. Microscopic examination showed

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LABORATORY FINDINGS: Blood Group A, Rho positive. Kahn and Hinton negative.									
Date	Hb.	Hct.	WBC	K.	Co <sub>2</sub>	Cl	A/G	Urea	Bilirubin
1- 8-59	10.5	36	7.7	—	29.3	97	3.0/3.6	35	—
1-12-59	—	—	—	4.6	—	—	—	—	—
1-15-59	—	—	—	—	—	—	—	63	—
1-19-59	7.9	30	—	4.6	20.0	90	—	90	—
1-20-59	9.0	29	—	—	—	—	—	—	—
1-21-59	—	35	—	—	—	—	—	—	0.7/0.8
1-22-59	12.0	35	—	6.0	15.8	90	—	110	—
1-26-59	9.0	33	—	8.1	—	—	—	214	less than 1.0

Urine:	pH	Sp. Gr.	Alb.	Sugar	Acetone	Casts	WBC	RBC
1- 8-59	4.5	1.018	0.075	0	0	0	0	0
1-17-59	7.5	1.012	0.100	0	0	0	0	0
1-19-59	5.5	1.008	1+	0	0	waxy gran.	0-1	0-1
1-22-59	5.0	g.n.s.	0.1	0	0	gran.	many	many

1-17-59 P.S.P. (4 hours, 35 minutes, Volume 90 cc.) Less than 5%.

L.E. Prep.: 1-8-59, 1-16-59, 1-26-59 — All (3) negative.

Stool Guaiac: 1-21-59, four plus; 1-26-59, four plus.

only occasional perivascular lymphocytes in the superficial corium. Attempts to record the patient's intake and output were rather unsuccessful, but suggested a marked oliguria. The total outputs recorded for 1-21-59 through 1-25-59 were 155; 47; 23; 29; and 14 ml. respectively. Basilar rales were noted on 1-20-59. Her pulse rose to 126; her respirations to 32; and her blood pressure to 184/122 mm. Hg. She was put in an oxygen tent. On 1-20-59 she received 1000 cc. of 5% dextrose in quarter strength saline followed by 500 cc. of whole blood. On 1-23-59 she was started on Solu-cortef,<sup>®</sup> 100 mg. every 6 hours, and on Chloromycetin.<sup>®</sup> On 1-24-59 her lungs appeared clear but her heart sounds were diminished and the murmur could no longer be heard. She appeared to be lethargic and disoriented. Her blood pressure dropped to 130/85 mm.Hg. She expired at 4:25 p.m. on 1-26-59 (19th hospital day).

DIFFERENTIAL DIAGNOSIS

Dr. Lieberman: May we see the x-rays?  
Dr. Edward Porter: In the first x-rays on 1-7-59, the lung fields look clear except for an old calcified Ghon complex on the right. There is nothing pathognomonic about the left ventricular enlargement. These films were followed by a survey film which showed nothing but the pessary which was mentioned in the abstract. These films don't demonstrate anything abnormal. The radiologist questioned the possibility of displacement of the stomach along the greater curvature region with the possibility of a small mass related to the pancreas producing an upward displacement of the distal stomach. There was a negative G.I. series. There was a small traction diverticulum of the esophagus. Films of hands, taken 9 days after the chest film, showed mild degenerative changes about the interphalangeal joints. This appears to be a diffuse process but is not diagnostic.

Another chest film on the 21st, I originally reported as showing no change. When I reviewed it I noticed some density not present on the first film. There may be a little area of pneumonia in the right lung, but it isn't too definite. It could even be artefact and is a very small area. On the 19th an I.V.P. was performed but it was unsuccessful. No visible function on either side was noted. This was felt probably due to the elevated B.U.N. but is not particularly diagnostic in itself. The renal collecting systems on each side appear normal. I certainly think this patient had some diffuse involvement of kidneys such as a diffuse glomerulonephritis.  
Dr. Lieberman: Historically, this 68 year old housewife noted a change in her fingers some two months prior to admission. They turned purple when cold and were tender to touch. Since then she has kept her hands out of water with some slight recent improvement. This description strongly suggests Raynaud's phenomenon. There is, in addition, evidence to indicate that the heart is involved. Evidence for this consists of cardiomegaly, chest fluid, response of edema to diuretics, and by electrocardiogram, possible electrolyte disturbance. There is further evidence that the kidney too participates in this disorder as evidenced by increased B.U.N., a diminished P.S.P. test, casts and albumin in the urine, diminished specific gravity, and oliguria. There is a normal retrograde study. The intravenous pyelogram may be discounted because of the elevated B.U.N. There is further evidence that the blood picture is distorted with a progressive anemia of blood loss type through the G.I. tract (positive stools). All the blood indices are low with no known gastro-intestinal tract lesion by x-ray other than esophageal and duodenal diverticula, which may well be discounted as the site of bleeding. Contributory to this blood picture may also be possible toxic depression of the marrow due to uremia.

We have evidence, therefore, that several organ sys-



tems are involved in this disorder; namely, skin, heart, kidney, and blood. I am led, therefore, to postulate a disease or group of diseases that may affect the transport system; namely, blood vessels, in such a manner as to affect the nutrition of such vital organs as the heart, kidneys, skin, and possibly lungs. Before we pursue these possibilities further, however, I should like to mention in passing several less likely diagnostic possibilities.

**Trichinosis.** There is little to suggest this as a strong diagnostic possibility. There is absence of the usual history of ingestion of improperly prepared food. There is, in addition, absence of periorbital edema. There is no eosinophilia and there is likewise lack of diffuse muscle pain which is characteristic of this disorder. Although biopsy was carried out in this case, it was apparently limited to skin only. We, therefore, do not have a description of the muscle biopsy. The heart may be involved rarely in this disease by a diffuse myocarditis. This possibility will be discarded.

**Sarcoidosis** is a chronic disease attacking the lung in 80% of the cases associated with lymphadenopathy with or without constitutional symptoms. This disease is considered primarily because it may well attack the heart and kidney. Militating strongly against this possibility, however, are the absence of chest x-ray findings, the absence of typical x-ray appearance of the small bones, and the age of the patient.

We may next consider amyloidosis. This is a disease of abnormal protein deposition in multiple organs. This disease may well involve heart and kidney, blood vessels, connective tissues, and muscles, the latter primarily and the former secondary to other diseases. It would seem unlikely, however, that this disease would carry any weight as a diagnostic possibility especially in view of the fact that this patient's illness apparently is of relatively short duration. It too will be discarded.

**Periarteritis nodosa.** This is a disease characterized by elevated blood pressure, fever, strong allergic background, eosinophilia, which frequently attacks the kidney and produces uremia. Biopsy usually substantiates this diagnosis. There seemed to be none of the major diagnostic criteria necessary for this diagnosis to consider this as a possibility. This too will be discarded.

We return, therefore, to the original postulate that we are dealing with a disease or group of diseases that is capable of attacking multiple organ systems simultaneously. We shall direct our attention, therefore, to the following disease entities and evaluate them as possibilities.

**Lupus erythematosus.** This disease usually found in younger females with or without the typical butterfly rash is characterized by constitutional symptoms such as fever and arthralgia. The kidney and urinary findings are compatible with this disease. However, the age of the patient, absence of rash, absence of constitutional symptoms, absence of the LE cell phenomenon which is usually present in 70% of the cases, and like-

wise absence of leukopenia which is characteristic makes this diagnosis most unlikely. It will be discarded.

**Dermatomyositis.** This is a disease which attacks the sexes equally, the age range usually being between 20 and 50. Initially, the skin or muscle symptoms may predominate, usually the proximal muscles of arms and legs become very tender, and the skin may reveal patchy erythema. This disease is prone to develop carcinoma, usually ovary and breast in the female and intestinal tract in the male. It usually exhibits mild anemia and there may be leukocytosis. Increased creatinuria due to muscle breakdown is frequently observed. The kidney, however, is seldom involved. This patient seems to offer little in the way of history or physical findings to consider this as a serious diagnostic possibility.

To be mentioned in passing only is scleredema adultorum. This rare condition is a complication of Streptococcal infection manifesting itself by induration of the deep portion of the skin of the neck and back. The hands and feet are spared. It is self limited and regresses spontaneously.

Throughout this discussion I have been searching for one disease entity which could explain involvement of several separate organ systems: namely, skin, heart, kidney, blood, and possibly lung, a disease that is devoid of constitutional symptoms such as fever and arthralgia, a disease that would involve the vascular tree by laying down a dense, thick, connective tissue affecting the caliber of blood vessels and leading to impairment of nutrition to the heart, kidneys, and possibly lungs. The G.I. tract may be involved with diminished peristalsis. This disease I believe to be Scleroderma, diffuse type. The single negative biopsy reported in the protocol would appear to be outweighed by the mass of historical and physical findings.

I believe the immediate cause of death was uremia with pericardial effusion.

*Dr. Wadsworth:* Are there any questions on Dr. Lieberman's discussion?

*Dr. Charles McEvoy:* What biopsy site would you suggest?

*Dr. Wadsworth:* What looked most like scleroderma?

*Dr. McEvoy:* The lesions of the fingers which were gangrenous.

*Dr. Wadsworth:* We received a superficial biopsy of the ankle. When skin biopsies are done they should include skin, subcutaneous tissue and muscle. Many lesions which appear to involve skin may show the pathognomonic changes in subcutaneous fat or muscle. One should obtain a fairly good-sized piece of skin. It was quite minute in this case.

*Dr. Hadley Parrot:* What was the reason for throwing out periarteritis nodosa?

*Dr. Lieberman:* There was no strong allergic background. The biopsy didn't support it although that may be said of my diagnosis of scleroderma. The kidney findings are compatible but I'm looking for a diffuse disease which will hit more than the kidneys.

*Dr. Robert Kellogg:* I would personally agree with his diagnosis. What little experience I have had with this disease shows that it has lasted more than 3 months. In your experience does this disease ever appear more benign? I believe that 3 months is a very short time for this disease to last. You mentioned a variety of possible causes for this woman's illness, but you didn't mention malignancy. In the case of a 68 year old woman whose illness is poorly defined, I wonder if we shouldn't consider myeloma or consider the possibility of a gastro-intestinal malignancy.

*Dr. Lieberman:* I am at a loss to explain this gross anemia from any G. I. lesion in view of the negative x-rays of the upper G.I. tract. There was blood loss but I don't know where it was from. Multiple myeloma, a disease that attacks bone, will have a secondary anemia, but this is a blood loss anemia. A bone marrow would have helped to rule out the possibility of myeloma.

*Dr. Parrot:* What is the correlation of positive L. E. preps and patients with lupus erythematosus?

*Dr. Wadsworth:* About 90% of the patients with systemic lupus erythematosus will show a positive L. E. cell preparation. The number of false positives has decreased with increased experience in identification of the cells.

**CLINICAL DIAGNOSIS:** Lupus erythematosus disseminata.

Acute renal failure.

Scleroderma with Raynaud's phenomenon.

*Dr. Lieberman's Diagnosis:* Scleroderma, diffuse type.

Uremia with pericardial effusion.

#### PATHOLOGICAL DISCUSSION

*Dr. Wadsworth:* Dr. Lieberman is to be congratulated on his discussion and diagnostic acumen. At autopsy extensive hyperkeratosis was noted on all finger tips with gangrene of the distal portion of the right index finger. The heart was enlarged, weighing 435 grams. The left ventricular myocardium was firm, dark red, and measured 1.6 cms. in thickness. The valves were not remarkable. The lungs were not remarkable grossly. Microscopically there was an early bronchopneumonia demonstrable only in the left lower lobe.

The left kidney weighed 137 grams. The capsule stripped with moderate ease leaving a fairly smooth, mottled, reddish-brown to pinkish-tan surface over which were scattered multiple small areas of hemorrhage. The cortex was pinkish-tan in color and measured from 0.4 to 0.5 cm. in thickness. The pyramids were dark reddish-brown. The calyces showed a few minute petechial hemorrhages. The pelvis appeared smooth and glistening. The right kidney weighed 134 grams and appeared similar to the left. Histologically the two kidneys were similar. The larger and medium sized vessels showed moderately marked intimal thickening which in many vessels had a distinct onion-peel

appearance. This was most marked in the interlobular arteries where there was a marked diminution in the caliber of the lumina. Some of the interlobular arteries and many of the pre-glomerular arterioles showed extensive fibrinoid necrosis with extension of the fibrinoid necrosis into some of the glomeruli. Most of the glomeruli appeared intact except for those lying in areas of infarction where both glomeruli and tubules showed necrosis. There was a rather extensive infiltration of polymorphonuclear leukocytes in the areas of cortical necrosis. Sections through the kidney pelves showed areas of ulceration of the mucosal epithelium of the calyces and pelves with an extensive infiltration of polys, lymphocytes and occasional plasma cells in the surrounding stroma. Polys could be demonstrated in the lumina of some of the collecting tubules, loops of Henle and convoluted tubules. Polys could also be found in scattered areas of the renal stroma in both cortices and pyramids. There were numerous areas of cortical infarction. Hyaline casts could be demonstrated in the lumina of many of the tubules. There was evidence of regeneration of the epithelial lining of some of the convoluted tubules.

Sections of skin from the right index finger showed a rather dense fibrosis of the dermal papillae and a rather marked atrophy of the sweat glands and their ducts. There was a deposition of keratohyalin material and polys on the surface of the epidermis in one section. Small arteries in the mid-corium showed intimal thickening, hemorrhage into the intima and occasional fibrin thrombi attached to the endothelium.

The patient shows very well the characteristic renal lesions found in generalized progressive scleroderma. Renal involvement is not uncommon in this disease, although it is relatively recently that the frequency and severity of the renal damage has been generally appreciated.<sup>1,2</sup> There is some suggestion that the use of adrenal cortical steroids in the treatment of systemic scleroderma may accelerate the progression of already existing lesions.

**FINAL DIAGNOSIS:** Generalized scleroderma with extensive renal scleroderma.

Congenital esophageal diverticulum.

Congenital duodenal diverticulum.

Leiomyoma of thoracic portion of esophagus.

Gastro-entero-colitis (scleroderma).

Hyperkalemia.

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# A Clinical Evaluation Of Cinnarizine (Mitronal®) In Various Allergic Disorders

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During the past fifteen years many new compounds have clinically proven their effectiveness in antagonizing the histamine response in a variety of diseases, especially in the field of allergy. However, the more active members of this class of drugs produce a major degree of sedation, and a lesser degree of nausea, vertigo, or other side effects. Interest in this field has naturally been centered on drugs of clinical potency and safety with fewer side effects.

This study of 255 unselected allergic patients from office and clinic practice shows the new antihistamine, cinnarizine (Mitronal) to be clinically effective and remarkably free from undesirable side reactions.

## PHARMACOLOGY

Cinnarizine, N-benzhydryl-N'-cinnamylpiperazine, is a white crystalline powder soluble in dilute mineral acids, but relatively insoluble in water. Studies in animals indicate<sup>1</sup> potent antihistaminic activity, approximately 3 mg./kg. being sufficient to protect 50% of a group of guinea pigs from histamine aerosol-induced bronchospasm. Reflex behavior and hypnotic activity, along with blood pressure and respiration, remained within normal limits in laboratory animals.

## ACUTE AND CHRONIC TOXICITY

*Acute Toxicity.* No deaths occurred<sup>1</sup> in mice given 1280 mg./kg. of cinnarizine orally. This was the largest amount of the compound which could be mechanically administered to the animals.

*Chronic Toxicity.* To determine chronic toxicity, thirty young growing rats were studied<sup>1</sup> for 12 weeks. Fifteen of these animals served as controls and fifteen were given a daily oral dose of 50 mg./kg. of cinnarizine, a dosage which represents approximately two-hundred times the expected human therapeutic dose. Weekly determination of body weights and growth curves for each group were not significantly different. After completion of the experiment, histopathologic investigation was carried out on the brain, heart, lungs, liver, spleen, kidneys, bone marrow and muscles. No consistent histological differences were found between the treated and control groups.

## METHOD OF STUDY

This study began in October, 1959, at the end of the ragweed pollen season and progressed through September, 1960, allowing us to observe use of Mitronal in all types of pollen sensitivity. Two hundred and fifty-five patients, ranging from seven months to 80 years of age were included in the series. Both tablets and syrup were used. The average dose in children was 20 mg. daily, while in adults the average daily dose was 40 mg. Each patient took the drug for a least seven days, while the longest period was nine months.

The series included patients undergoing hyposensitization as well as those on standard acute allergic management. Many of the patients had run the gamut of other antihistamines without satisfactory control of their symptoms, or with relief accompanied by annoying side effects. Most of them had taken corticosteroids with return of symptoms on withdrawal. Mitronal was not tried in cases where other measures had proved totally satisfactory unless we were attempting to simplify the patient's medication program.

No significant blood pressure changes were noted. Blood studies were not done routinely, but no dyscrasia was noted in those instances in which they were carried out.

## REPORT OF CASES

No. 1 — A woman, 42 years of age, was first seen by me on March 23, 1960. She had a three year history of Chronic Urticaria. Use of many anti-histamines and steroid hormones gave her very fleeting relief. Onset of her present symptoms coincided with the death of an alcoholic mother-in-law. The patient was shocked to learn of this person's drinking habits and final demise.

Even though her husband never disclosed the habits of his mother, the patient experienced a guilt complex for neglecting her mother-in-law. She never previously discussed the situation with her husband. Several interviews with the patient enabled her to gain insight into her problem. Mitronal in daily doses of 40 mg. controlled her symptoms during a two month period of therapy during which time the urticaria finally disappeared.

No. 2 — A female patient, 44 years of age, was first seen in December 1959. She had a 2½ year history of daily hives. She resorted to all types of tranquilizers and anti-histamines without much relief. She appeared quiet and relaxed during the interviews. Her Skin

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Tests were all negative. With 40 mg. of Mitronal daily her symptoms were controlled; however, when the drug was stopped the symptoms recurred the next day. Although the etiology remained undetermined the patient was maintained symptom-free with 40 mg. of Mitronal daily for a five month period. A weight gain of fifteen pounds — 112 to 127 lbs. — was noted while she was under observation of the controlled symptoms.

No. 3 — A male child, two years of age, was first seen on June 30, 1959. This child had a juvenile eczema which had its onset at two months of age. History as well as scratch testings revealed that this child was definitely sensitive to Wheat, Chocolate, Nuts, Strawberry, Tomato, Lettuce, and Corn products. Initially the child was treated with avoidance diet, oral antipruritics, and topical hydrocortone creams.

Response was improvement of the generalized atopy, but erythema and marked scaling persisted during the summer and became somewhat aggravated toward the first part of October. Additional work was performed on the child, and it was found that he had developed sensitivity to Ragweed, June Grass, Dog dander during the summer months, all of which he had been in contact with during the summer.

Desensitization was initiated with some relief after the Pollen season subsided.

In November of 1959 the child ate some bread and had a marked flare-up of the skin. In the latter part of November when the acute flare-up had subsided, the child was put on Mitronal, and by December 10, 1959, the initial response to the Mitronal was marked reduction in the erythema of the skin and desquamation of the skin occurred so that the child's skin became very smooth and extremely more comfortable. The response actually was quite dramatic.

The second thing which was most important was that the emotional status of the child completely changed. This child was exceptionally fractious, irritable, and typical of the Allergic child in constant irritation who has become sedated without being put to sleep. He became a happy child.

The dosage at this time was 2.5 mgms. three times daily. There was no side reaction of any kind which could be noted, no alteration of the blood picture, urine, or the like.

The child did well until March of 1960 at which time there was some increased activity of the skin, and it was found that he had been eating some corn products. A short course of steroids was used to get him out of difficulty, and he was returned back to his original medication.

In April, medication was discontinued and it was thought to be a good idea to run some comparative studies, and this child was treated with other anti-histaminics which produced very little, if any, alteration of the child's skin. At the request of the mother, Mitronal was again given with the same response noted above. Since that time, we have had other episodes of using

other types of anti-histaminics on comparative studies in June, July and August, and each time he has had a flare without response to the medication as previously. The only time that the medication does not seem to allow for any change in the skin to the relatively nice pattern of mild activity is when the child has had some upper respiratory infection when it seems to do little or nothing.

No. 4 — A child, female, eight months of age, was initially seen on May 22, 1959, for recurrent upper respiratory infection, Bronchial Asthma, Asthmatic Bronchitis and Juvenile Eczema. Her mother stated that she had Eczema on the day of her birth.

This child was found to be reactive to Wheat, Milk, Apples, Spinach. She was treated with usual avoidance diet of Soyabean, Rice, and the like.

This child, when first seen, was also a problem for the family. The mother stated that the child had been crying constantly almost from birth to the extent that the entire family was exhausted. Along with the Allergic reaction she would recurrently develop upper respiratory infection and Tonsillitis, Otitis, Pharyngitis. An attempt was made to sedate the child with ataractics and Compazine® with little or no relief, when Mitronal was started the response was dramatic. One week after the child was put on this medication, the mother walked into the office smiling, the child was smiling, and the mother stated that it was the first time that any of them had had a decent night's rest since the child had been born.

She was kept on Mitronal for a period of four weeks. It was then discontinued and within three days the mother returned and requested more of the medication because they were in just as bad a state as before using Mitronal.

Mitronal was again started and she was kept on it for a period of six weeks. Dosage was 2.5 mgms. three times daily. At this point, another attempt was made to change the patient over to another antihistamine, without relief of symptoms. The mother refused to allow any more attempts at other medications and insisted upon keeping the child on this compound.

Medication was carried on through June of 1960 at which time it was discontinued, to be used only as needed. Since then it has been found that the child did well during the summer; practically all Allergic correction has been accomplished temporarily. No further Eczema exists. The interesting point about the Eczema on this child is again the reduction of erythema and pruritis which was so marked.

## RESULTS

The results of our one year study are shown in Table I. From these findings it would appear that Mitronal can be expected to be effective in many cases of allergic nature while producing a minimum of side effects.

In the group with respiratory allergies, we found the best results in treating vasomotor rhinitis. Seventy-six



TABLE I  
RESULTS OF STUDY ON USE OF MITRONAL  
IN 255 PATIENTS

Diagnosis	Control of Symptoms					Side Effects
	Number of Patients	Excellent (Complete Relief)	Good (Almost Complete Relief)	Fair (Partial or Moderate Relief)	Poor (Little or Slight to No Relief)	Number of Patients with Side Reactions
Hay Fever	69	35	11	2	21	4
Vasomotor Rhinitis	59	23	22	1	13	5
Asthma, Bronchial	29	12	4	1	12	1
Totals Respiratory	157	70	37	4	46	10
Contact Dermatitis	11	3	2		6	1
Atopic Dermatitis	21	5	9	5	2	5
Neurodermatitis	18	7	2	2	7	3
Juvenile Eczema	7	3	2	2		
Urticaria	18	10	5		3	1
Psoriasis	6	1	2	2	1	
Totals Dermatological	81	29	22	11	18	10
Miscellaneous	17	5	3	2	7	1
FINAL TOTALS	255	104	62	17	72	21

percent of these patients experienced complete or almost complete relief of symptoms, while the overall "Excellent" to "Good" rate for the group with respiratory disorders was 69%. The figures on bronchial asthma are particularly interesting, and it must be pointed out that we seldom found Mitronal of value in adult asthmatics.

However, twelve of the fourteen children with bronchial asthma had a "Good" or "Excellent" response. Some of our most remarkable results with Mitronal were in this group of children, with patients who had represented really difficult problems in management experiencing their first relief in years. For one child this meant complete readjustment, with cessation of nightmares, and the ability to assume normal school attendance.

This was the most outstanding difference in response between our adult patients and the children under thirteen years of age, but the general trend was in the same direction. Table II, which shows the comparison, includes all the patients although they are divided into five groups. Except for the seven children who made up the Juvenile Eczema group, the rest were too scattered to be of any significance. On the whole, however, children responded to Mitronal much better than adults.

In children under five years of age Mitronal appeared to give relief within two to five days, particularly in

juvenile eczema. Erythema disappeared rapidly. This was followed by scaling, which usually persisted, while the pruritus and erythema remained absent as long as Mitronal was taken. Symptoms returned in 48 to 72 hours after medication was stopped.

Withdrawal of Mitronal was tried with most of our child patients, substituting other antihistamines and antipruritics. This resulted in a return of allergic disease which repeatedly responded to the reintroduction of Mitronal.

In the dermatological group, chronic urticaria and patients with intense itching appeared to benefit more from the drug than others. Its use in chronic urticaria was also interesting from the standpoint of dosage. We found that 40 mg. to 60 mg. daily was necessary to relieve symptoms; and maintaining that dosage over six to eight weeks was necessary to correct and prevent recurrence.

The results in psoriasiform dermatitis were of special interest too. Where there was an allergic complication, all patients experienced marked relief of pruritus and subsidence, in small to marked degree, of erythema.

SIDE EFFECTS

The total number of patients who experienced side effects, and a breakdown by disease classification, is shown in Table I. Table III shows a breakdown by type of reaction, a few of the patients experiencing more than one type. While untoward reactions occurred in 8% of the patients, most of these patients had underlying psychosomatic complaints. Many of the side effects were fleeting — disappearing usually in 24 to 48 hours — and an additional number were alleviated completely by adjustment in dosage, still maintaining control of symptoms. Taking these factors into consideration, we feel that only five patients experienced side effects of any significance, and these disappeared on withdrawal of medication.

Mitronal would therefore appear to be more of a "normalized" antihistamine in that these patients seemed to get relief of symptoms with little or no side reaction. Even when relief was no better than with previous medication, therapy with Mitronal was frequently advantageous since the patient was no longer bothered by side effects. One patient, using 80 mg. of Mitronal, was unaware of any side effects. Also, in this respect, it is interesting to report a recent study<sup>2</sup> by Wahner and Peters at the Mayo Clinic where Mitronal, tested with four other newer antihistamines, revealed no undesirable side effects.

Every physician is concerned about the hazard of side effects as well as the toxic potential in any therapeutic preparation. For that reason, we feel the most important part of this early study reveals the amazingly small percentage of untoward reactions as compared with other drugs already used in antihistaminic therapy. Further study of this new antihistamine, in larger doses and in selected cases, is in progress.

TABLE II

COMPARISON OF RESULTS IN ADULTS AND CHILDREN UNDER 13 YEARS

Diagnosis	Number of Patients		Excellent		Control of Symptoms		Poor	
	Adults	Children	Adults	Children	Good Adults	Fair Children	Adults	Children
Hay Fever	53		24		8	2	19	
Vasomotor Rhinitis	44	16	15	11	18	3	10	2
Asthma, Bronchial	15	15	2	8	2	4	11	3
Atopic Dermatitis	10	14	3	10	2	2	1	1
All Other Groups	63	11	22	2	13	6	3	2
TOTALS:								
Adults	185		66		44	9	66	
Children		70		38		18		6

TABLE III

INCIDENCE OF SIDE EFFECTS

Diagnosis	Total Number of Patients	Number of Patients with Side Reactions	Tension	Depressive Irritability	Sedation	Occurrence of Various Types of Reactions						
						Sleepiness	Vertigo	Nausea	Xerostomia	Gastro-intestinal	Cephalgia	Nightmares
Hay Fever	69	4			1	1		1	1	1		
Vasomotor Rhinitis	59	5				2	1			1	1	
Asthma, Bronchial	29	1				1						
Contact Dermatitis	11	1						1			1	
Atopic Dermatitis	21	5		1	1	1	2					1
Neurodermatitis	18	3				2		1				
Juvenile Eczema	7											
Urticaria	18	1				1	1					
Psoriasis	6											
Miscellaneous	17	1	1									
	255	21	1	1	2	8	4	3	1	2	2	1

SUMMARY AND CONCLUSIONS

A clinical evaluation of cinnarizine (Mitronal) in 255 patients shows excellent results in 41% of the cases, good results in 24%, and little or no improvement in 28%. The most consistent relief appeared in cases of chronic urticaria and in those with pruritus due to other skin diseases. The drug was very effective in children with bronchial asthma, but showed little efficacy in adult asthmatics. Only 8% of the patients had side effects, and these usually disappeared or were alleviated by simple adjustment in dosage. There was no evidence of any circulatory complications or blood dyscrasia noted in this series.

Although objective findings were thoroughly evaluated whenever possible, it was frequently necessary to rely on the reports of the patient as to the efficacy of the drug, and we are aware of the enthusiasm with which some patients subscribe to a new drug. Still, it is most comforting to know that the problem of side

effects should rarely complicate the use of Mitronal.

This drug is not a panacea. Good comprehensive antiallergic therapy — with diets, desensitization, protection and even steroids — is necessary to resolve these disease states. However, in general, Mitronal is a very *safe* antihistaminic without much danger of side reactions; it gives results without putting the patient in the "complicated chemical plant" we so frequently see.

The cinnarizine used in this study was supplied as Mitronal by G. D. Searle & Co., Chicago, Illinois.

REFERENCES

1. Unpublished data, Division of Biological Research, G. D. Searle & Co.

2. Wahner, H. W. and Peters, G. A.: An Evaluation of Some Newer Antihistaminic Drugs Against Pollinosis. Proc. Staff Meet. Mayo Clin. 35:161-169 (Mar. 30) 1960.

Dr. Barrett, Corner of Union and James Streets, Bangor, Maine

Dr. Zolov, 296 Congress Street, Portland, Maine



# Brief Oral Therapy Of Severe Allergic Dermatoses With Dexamethasone

MARTYN A. VICKERS, M.D.

Major increments in the safety and effectiveness of therapy with synthetic adrenal steroids were achieved by relatively minor structural modifications of cortisone and hydrocortisone. In prednisone and prednisolone, therapeutic activity was heightened without a corresponding increase in side effects. Retention of sodium, which had been a problem with the earlier steroids, rarely occurred with the newer analogues. Most recently, methylation at the 16-alpha position of the prednisolone molecule has resulted in a further separation of anti-inflammatory from mineralocorticoid and glucocorticoid activity. Although the anti-inflammatory potency of this steroid, dexamethasone,\* is higher than that of any synthetic steroid on a milligram-for-milligram basis, toxicity and undesired metabolic effects are minimal.

Boland and colleagues<sup>1-3</sup> determined the clinical anti-inflammatory potency of dexamethasone by cross-comparisons with earlier steroids in 102 arthritic patients. The milligram-for-milligram potency of dexamethasone was approximately seven times that of the parent compound, prednisolone, and by calculation 30 times that of hydrocortisone. The optimal dosage for control of symptoms was found to be 0.6 to 2.8 mg. daily, at which level carbohydrate and electrolyte metabolisms were not affected. Some patients who received the higher doses experienced gastrointestinal distress or weight gain; the latter was due to increased appetite rather than to fluid retention. Bunim and colleagues<sup>4,6</sup> found that experimental doses as high as 10 mg. daily did not alter normal values for sodium or potassium or disturb carbohydrate metabolism. At 6 to 10 mg. daily there was some calcium loss. Newman's group<sup>7</sup> reported that electrolyte values remained stable during dexamethasone therapy but three diabetic patients evidenced increased glycemia or glycosuria. Slater and colleagues<sup>8</sup> did not observe untoward metabolic effects during dexamethasone therapy. Harris and Taylor<sup>9</sup> administered therapeutic doses for pemphigus vulgaris to a diabetic patient. The skin lesions cleared rapidly with no difficulty in controlling the diabetes although previous treatment of this patient with other steroids had sharply increased her insulin requirement.

Although the accumulated experience indicates that undesired mineralocorticoid and glucocorticoid effects

are less likely with dexamethasone than with its earlier analogues<sup>10</sup>, their occurrence is possible. Close clinical surveillance is mandatory with dexamethasone as with all adrenal steroids. The relative and absolute contraindications associated with steroid therapy apply also to dexamethasone.

Clinical experience with dexamethasone in dermatology indicates that rapid subsidence of the inflammatory reaction and involution of the lesions usually occurs in atopic and contact dermatitis and in most of the other allergic dermatoses.<sup>11-14</sup> Apparently the exogenous steroid supplements the heightened but inadequate secretory activity with which the adrenal cortex responds to physiological stress<sup>13</sup>. Optimal results occur when steroid therapy is accompanied by standard antiallergic measures such as hyposensitization.<sup>14</sup> Most investigators recommend that the use of oral steroids for dermatoses be confined to patients with severe symptoms which resist conservative management. Oral steroids usually are used for short periods of time to control acute attacks. Long-term administration seldom is necessary or desirable.

## METHODS

Dexamethasone orally was used only in patients with severe or widespread dermatoses. Most of the patients had some form of contact dermatitis caused by allergies to plants, weeds, animals, or drugs. The typically erythematous, pruritic, vesicular, and pustular lesions were usually extensive and occasionally generalized. Urticaria or eczema in 15 patients was caused by allergenic foods or drugs. Seven patients were treated for miscellaneous dermatologic conditions with a significant allergic or inflammatory component (see table). Eight patients had secondary bacterial infections which were treated with antibiotics.

The attack dose in 96 adults was four to six tablets (3.0 to 4.5 mg.) daily. This was reduced on the second day of treatment and further decreased at intervals of three days. Daily dosage was divided. If administration was continued for more than one week, the later dosage usually was fractional to a total of one tablet (0.75 mg.) daily. Attack and maintenance doses adjusted for age and weight were administered to 26 children. The seven infants who were one year or younger were started on fractional doses totalling not more than one tablet daily. This also was reduced after several days.

\*Dexamethasone is available as Deronil® from the Schering Corporation, Bloomfield, New Jersey. Supplies were provided for this study through the courtesy of George Babcock, Jr., M.D., Director of the Medical Research Division.

Diagnosis	Number of Patients	Completely cleared			Greatly improved		
		one week	two weeks	two weeks	one week	two weeks	two weeks
contact dermatitis	100	29	16	3	39	9	4
allergic urticaria	10	3	2	—	4	1	—
acute eczema	5	2	—	—	2	—	1
"id" reaction to							
parasitic infection	4	1	—	—	2	1	—
pemphigus vulgaris	1	—	—	—	—	1	—
angioedema	1	1	—	—	—	—	—
herpes zoster	1	—	1	—	—	—	—
SUMMARY	122	36	19	3	47	12	5
		(29%)	(16%)	(2%)	(39%)	(10%)	(4%)

One hundred patients received dexamethasone for one week or less and 17 received it for one to two weeks. Longer maintenance therapy, at low dosage levels, was required in five patients who were treated from three to five weeks. Treatment usually was continued until there was complete or almost complete relief. In a few patients, however, improvement progressed, as expected, after discontinuance and in some severely affected patients it was considered advisable to continue the drug for a very few days after apparent cure.

### RESULTS

The results of treatment with oral dexamethasone were invariably gratifying and occasionally dramatic. Within one week, 36 patients were completely relieved and 47 were greatly improved (see table). The others responded later. There were no therapeutic failures.

Dexamethasone was rapidly and usually completely effective in the patients with acute allergic dermatitis and urticaria. Significant response (drying of vesicular lesions; diminution of pruritus and erythema) often was observed on the second or third day. Most types of acute contact dermatitis are self-limited unless there is continued exposure to the allergen; however, the improvement after administration of dexamethasone was much more rapid than could have been expected without treatment or with topical agents.

Two patients with especially severe allergic dermatoses required increases in dosage before the desired response occurred. Three weeks of treatment with five tablets (3.75 mg.) daily produced an excellent result in an adult who is now being maintained, for a short time, on two tablets daily. A child of three years required two tablets daily for ten days for maximal improvement; one-half tablet daily was used for a short period of maintenance therapy.

A male of 76 years with pemphigus vulgaris responded very well after ten days of treatment and the disease is now completely controlled on one tablet daily. A case of angioedema and one of herpes zoster were cleared rapidly. Dexamethasone apparently reduced the intensity of the inflammatory "id" reaction in four patients with parasitic dermatoses.

Patients or the parents of children were asked to comment about the drug. Only two described it as "fair"; all the others considered it "good" or "excellent." Five patients reported some difficulty in sleeping because of the stimulating effect of the steroid; however, they did not want to discontinue it. This was the only side effect.

### CONCLUSIONS

These results indicate that dexamethasone is able to relieve nearly all cases of acute dermatoses. At the doses used, the drug appears to be safe even for infants and aged persons, especially since the required duration of therapy usually is short. Chronic allergic and inflammatory dermatoses also respond. Since it is likely that many chronic skin lesions begin as acute episodes of contact dermatitis, early symptomatic treatment combined with definitive management often prevents these cases from becoming chronic.

The excellent response to dexamethasone does not obviate the necessity for follow-up, definitive diagnosis, and, in some instances, long-term management. When the acute condition has subsided, the offending allergen should be identified and eliminated if possible. Desensitization procedures may be indicated. Administration of an oral steroid increases rather than decreases the physician's responsibility.

### SUMMARY

Dexamethasone (Deronil®) was administered orally to 122 adults and children with allergic and inflammatory dermatoses. The highest attack dose was six tablets (4.5 mg.); one tablet (0.75 mg.) daily was usually sufficient for brief maintenance therapy. Most patients were completely or almost completely relieved of symptoms during the first week. Interference with sleeping, in five patients, was the only side effect.

### REFERENCES

1. Boland, E. W.: 16-a-Methyl Corticosteroids. A New Series of Anti-inflammatory Compounds; Clinical Appraisal of their Antirheumatic Potencies. *California Med.* 88:417-422 (June) 1958.

*Continued on page 470*



# *From the Secretary's Notebook*

## *Fifty Years Ago*

Fifty years ago — in December, 1910 — the first issue of the Maine Medical Journal was published. The lead editorial in this first issue states that:

"At the last meeting of the Maine Medical Association it was voted that a State Medical Journal be published. We want to tell you why we believe that to have been a good decision.

"First, we know that experience has shown in many other states that a journal was a success. Dr. Frederick Green, Assistant Secretary of the American Medical Association, writes us that almost without exception the state societies that publish journals are the most active and progressive.

"Secondly, this Journal will serve as the official organ of the Maine Medical Association. We aim to have in its columns frequent discussions of matters pertinent to the medical profession of our state. This will broaden our information as individuals and ought surely to tend to facilitate business at our general meetings. Our great progressive American Medical Association would amount to little without its journal, and we want this infant journal to inherit some of the infusing, energizing power of its father.

"To accomplish the work laid out we must have the good will and active help of all the members of the Maine Medical Association. We court criticism and we will especially appreciate any assistance in the form of interesting papers, news, or comment.

"To each county in the state has been assigned an editor, and we expect him to give us all the medical news from that county. If he does not do so, let him know and let us know, sending us what he has omitted. We want it all."

Frank Y. Gilbert, M.D. of Portland was elected managing editor — a position he held for twenty years, and the first Editorial Board consisted of the following members: Dr. C. R. Burr and Dr. Philip Thompson, Cumberland County; Dr. D. M. Stewart, Oxford County; Dr. C. W. Peters, Penobscot County; Dr. Ralph H. Marsh, Piscataquis County; Dr. Byron F. Barker, Sagadahoc County; Dr. Seldon F. Green, Somerset County; Dr. Clarence Kendall, York County; Dr. H. E. Milliken, Kennebec County; Dr. F. H. Jackson, Aroostook County;



Frank Y. Gilbert, M.D.  
Editor 1910-1930

Dr. G. L. Pratt, Franklin County; Dr. R. W. Wakefield, Hancock County; Dr. H. E. Gribben, Knox County; Dr. S. E. Webber, Washington County; Dr. George H. Coombs, Lincoln County; and Dr. Frederick Wakefield, Androscoggin County.

A Board of Managers was appointed which included Dr. E. H. Bennett, Lubec; Dr. Addison S. Thayer, Portland; Dr. J. F. Thompson, Portland; Dr. A. D. Sawyer, Fort Fairfield; Dr. C. E. Williams, Auburn; Dr. G. M. Woodcock, Bangor; Dr. E. E. Holt, Portland; Dr. W. L. Cousins, Portland; Dr. Alfred King, Portland; Dr. Hiram Hunt, Greenville; and Dr. E. G. Abbott, Portland.

The first article to be published in this issue of the Journal was the "President's Address" by Galin M. Woodcock, M.D. father of Allan Woodcock, M.D. of Bangor, immediate past president of the M.M.A.

This issue also contained contributions from twelve county medical societies.

Two reprints from Vol. I will be found in this 1960 issue; an article on page 415 and an advertisement on page 462.

# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **Virus/Cancer Studies**

A new compilation by National Cancer Institute reveals it is supporting, to tune of more than \$5.6 million, some 150 research projects concerned with virus etiology of cancer. Several are being undertaken in Canada, Western Europe, Scandinavia and the Middle East. (WRMS Nov. 28, 1960)

### **USPHS & ADA Distressed By Fluoridation Defeats**

U. S. Public Health Service and American Dental Association are unhappy with outcome of referenda November 8 on fluoridation of community water supplies. USPHS tab sheets reveal fluoridation was victorious at the polls in six small towns of Oregon (3), Kansas (2) and Illinois (1), but went down to defeat in 29 municipalities in 11 states. Such large cities as Cincinnati, Sacramento, Joplin and Saginaw were among them.

Dr. Charles H. Patton of Philadelphia, ADA president, said it is "incomprehensible" how an electorate could reject fluoridation which, as he put it, is supported by more scientific evidence than the Salk vaccine can muster. (WRMS Nov. 28, 1960)

### **"Goals" Reminiscent Of Truman Health Findings**

Human needs section of the Wriston Commission report is reminiscent of findings of President's Commission on Health Needs of Nation, issued in 1952. Each appeared near close of an Administration. Both agreed U. S. needs more doctors, more hospitals, better

processes for financing of health services. But where the Truman-appointed group (its chairman was Dr. Paul B. Magnuson) was explicit in its recommendations, proposals of the commission named by President Eisenhower last year are generalizations that stop short of implementation measures.

Hill-Burton hospital construction aid is desirable "and should be extended to other medical facilities." Governmental and private support "is necessary for training doctors," the report states, and medical student scholarships, environmental health and abatement of mental illness are all supported.

Further efforts are needed to reduce the burden of the cost of medical care, the report says. "Extension of medical insurance is necessary, through both public and private agencies." Beyond that point, however, the Commission does not go, thereby evoking dissent by one of its members, AFL-CIO President George Meany. He said he thought the Commission at that point should have indorsed medical eldercare under the social security banner, in Forand style. (WRMS Nov. 28, 1960)

### **Actions Of The House Of Delegates**

A scholarship and loan program for medical students, the status of foreign medical graduates, an A.M.A. membership dues increase, the expansion of voluntary health insurance, health care for the aged and new developments in polio vaccine were among the major subjects acted upon at the American Medical Association's Fourteenth Clinical Meeting held in Washington, D.C., November 28 through December 1.

Named as 1960 General Practitioner of the Year



was 44 year-old Dr. James T. Cook of Marianna, Florida, who was selected for his dedication to both medical practice and service to the community. Dr. Cook is the 14th recipient of the award.

Total registration reached 8,170, made up of 3,940 physicians and 4,239 guests.

#### SCHOLARSHIP AND LOAN PROGRAM

The House of Delegates approved a scholarship and loan program proposed by the Special Study Committee of the Council on Medical Education and Hospitals, and also urged that there shall be local participation in the program at the state and county level.

#### FOREIGN MEDICAL SCHOOL GRADUATES

Meeting the problem of foreign medical graduates, the House of Delegates adopted a report which included the following statement:

"In order that those foreign physicians who have not yet been certified by the Educational Council for Foreign Medical Graduates might be given further opportunity to enhance their medical education, hospitals would be encouraged to develop special educational programs. Such programs must be of educational worth to the foreign graduate and must divorce him from any responsibility for patient care. Foreign physicians may participate in these programs until June 30, 1961, with approval of the Department of State so that their exchange visa will not be withdrawn before that time. This will also allow the non-certified foreign physician the opportunity to take the April, 1961, Educational Council for Foreign Medical Graduates examination."

#### A.M.A. DUES INCREASE

The House approved a Board of Trustee report which announced that a dues increase would be recommended at the annual meeting in June 1961. The report indicated that the amount would be not less than \$10 and not more than \$25 to be effective January 1, 1962. The Reference Committee asked the Board to consider an increase in the annual dues of \$20.00, to be implemented over a period of two years:

\$10.00 on January 1, 1962, and \$10.00 additional on January 1, 1963.

The House suggested that these funds be used to inaugurate or expand a number of programs including:

1. Financial assistance to medical students.
2. Continuing education for practicing physicians.
3. Health advice to the lay public.
4. Medical research.
5. The expansion by the Communications Division of its program of faithfully portraying the image of the American Medical Association.

It is important, the House emphasized, that the Board of Trustees report recommending a dues increase be transmitted in essence to the grass roots level.

#### SSA Discloses Data On '59 Health Outlay

According to latest compilations by Social Security Administration, total expenditures for health and medical care in fiscal year ended on June 30, 1959, approximated \$25 billion. This was 5.4 per cent of the gross national product. Three-fourths was privately financed. The increase over previous year was \$2.5 billion, or 11 per cent. (WRMS Nov. 28, 1960)

#### White House Conference On Aging Opening January 9

The approaching assembly of a new Congress and inauguration of a new White House regime point up special significance of Eisenhower-called White House Conference on Aging here January 9 through 12, 1961. Dr. Leonard W. Larson, AMA president-elect, will head up discussion section on health and medical care. But the section concerned with financing of health services will be led by Charles L. Schottland, former Social Security Commissioner and an ardent advocate of Forand-type legislation.

Dr. Howard A. Rusk heads section on rehabilitation. Drs. Ewald W. Busse and Hardin B. Jones will lead the discussion sections on medical and biological research in gerontology, respectively. (WRMS Dec. 5, 1960)

Reprinted from the *Maine Medical Journal*, February, 1911, Vol. 1, No. 4.

The most efficient and economical car for a  
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# ANSWERING QUESTIONS



## Medicine — And The Challenge Of The '60's

Twenty years ago, our profession responded to an urgent challenge, and demonstrated that doctors — working together with labor, industry and community leaders — could solve a great social problem by voluntary effort.

The challenge we faced in 1940 was the threat of national compulsory health insurance, which many people then felt was the only practicable solution to the problem of prepayment for modern medical care.

Medicine's response was the creation of Blue Shield, through which our profession acknowledged its responsibility not only to provide good medical care but to help people pay for it when they need it. Although Blue Shield has always been the leader and pace-setter of the vast voluntary medical prepayment system, our efforts were soon supplemented by the private insurance industry, which today underwrites about as much medical care insurance as do the nation's Blue Shield Plans.

Now — in 1960 — we face a new challenge in the proposal to utilize the Social Security system to underwrite medical care for its aged beneficiaries. There are many who fear that this would be only a preliminary step to the extension of medical care coverage through Social Security to the entire population.

How can medicine meet this new challenge? Why not look again to Blue Shield, medicine's own prepayment mechanism? Blue Shield today has earned a vote of confidence from more than 45 million citizens and it also enjoys substantial — though not uncritical — support from much of labor and industry.

Our local Blue Shield programs vary widely in scope of coverage, in the degree of assurance of full payment that they offer the patient, and in the adequacy of their payments to physicians. Some Plans are very good, while some others are scarcely worthy of public support or professional endorsement.

If we are to meet the challenge of the 60's and keep our patients and our profession free of political domination, we must make every one of our Blue Shield Plans as good as the best of them. If we fail to give all the people of America the very best medical prepayment program we can possibly offer them, they may look elsewhere for the answer to this challenge.





DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

# Recent Developments In The Maternal And Child Health Program

ELLA LANGER, M.D.\*

Previous articles have dealt with the scope and nature of the Crippled Children's Program of the Division which is carried on as a joint function with the Maternal and Child Health Program. This article will attempt to outline some of the more recently developed activities of the Division specifically within the area of maternal and child health.

### ADOLESCENT CLINIC

In January, 1959, a special clinic for teenagers was begun as an Adolescent Clinic at the Maine Medical Center. Since this program was started as a demonstration on a small scale only, with one clinic scheduled per month, acceptance is limited to cases on the state Crippled Children's register. The underlying philosophy of the program was that teen-agers registered with Crippled Children's Services on account of a physical handicap, orthopedic, or cardiac — due to their special problems — should not be included in the regular clinic where children of all ages are attending but should be seen in a clinic especially planned for them. To this end, they are seen by a physician without the presence of the parents who are generally interviewed separately.

The clinic is staffed with two pediatricians especially interested and experienced in the adolescent and his problems; a cardiologist; a consultant from the Children's Medical Center Adolescent Unit, Boston; a medical social worker; public health nurses, and nutritionist.

Provisions for the necessary in-service training for the participating professional staff were made through Dr. Roswell Gallagher, Chief, Adolescent Unit, Children's Medical Center and, as stated above, members of that staff have attended the clinic on a periodic basis as consultants to the Clinic Staff in this respect.

Follow-up of the clinic patients is continued by the pediatrician in charge, his aim being to establish strong

rapport between himself and his patient. This consists largely of counseling for both parent and patient. As additional follow-up, referrals are made from the clinic to other specialists in accordance with needs in this direction, as well as to other community resources, such as recreational programs, etc.

After each clinic session, a team discussion is held. This is attended by the full clinic staff. Here an evaluation is made of each case and the necessary follow-up procedures recommended.

The project is, at the present time, conducted on a monthly basis, on a very small scale, due to lack of professional personnel. However, it is hoped that communities will, in light of the benefits and experiences demonstrated by this clinic, organize similar programs of their own, thus extending the scope of the program.

### CYSTIC FIBROSIS PROGRAM

In 1957, a program for diagnosis, treatment and care of cystic fibrosis patients was established within the Division, through special appropriation by the Legislature for this purpose. Monies thus made available were further augmented by funds from federal sources for administration of the program, making possible a service to include the following: diagnostic procedures, medication, physical therapy, nursing follow-up care, nutrition and medical social service. The Division provides a consultant from the Chronic Nutrition Clinic at the Children's Medical Center, Boston, under the supervision of Dr. Harry Shwachman, and one to two of the pediatric clinics regularly held at the Maine Medical Center are devoted to cystic fibrosis cases each month.

Medication ordered directly from a pharmaceutical concern and stored at the Center pharmacy is issued to the parents of the patient at the clinic. Parents of cystic fibrosis cases known to Maternal and Child Health — about 70 cases at the present time — have been in-

\*Director, Division of Maternal and Child Health

formed that requests for medication have to be sent in to the central office of the Division in Augusta. From here, order forms for the requested medication are forwarded to the pharmacy at the Center and the medication is then shipped directly to the family. In this way, the expense of medication is greatly reduced.

Any child suspected of cystic fibrosis is eligible for diagnostic service under the program. Eligibility for treatment is determined by the economic situation of the family. Services provided are: medication (antibiotics and any other prescribed medication, except vitamins), laboratory tests and x-rays, physical therapy, medical follow-up care, transportation to consultant or clinic.

The Maine Cystic Fibrosis Association has procured nebulizers and also compressors for mist nebulization which are stored at the Center for purposes of loan where recommended. The Association also contributes toward the cost of the clinic itself.

SERVICES FOR MENTALLY RETARDED  
PRE-SCHOOL CHILDREN

In response to the urgent need for services for mentally retarded children due in large part to lay interests — especially the Maine Association for Retarded Children, Inc., which has been actively focusing the public attention to the need — the 1955 Legislature amended the existing law (R.S. 467, Sec. 1) to provide for the educational needs of the mentally retarded child of school age. While this amendment was a significant step toward the goal of helping the mentally retarded child to develop to the fullest extent of his abilities, there were still some gaps. Specifically, there was no public program allowing for diagnostic procedures and follow-up of mentally retarded children under the age of six years.

To begin to fill these gaps, and in recognition that for the infant and pre-school age child, complete diagnostic evaluation respecting his physical and mental status should begin as early in the child's life as possible, a demonstration project was started as a pilot program in the spring of 1957.

Any child to the age of six years who is mentally retarded or suspected of retardation in mental growth is eligible. Held as an all-day clinic under the direction of the pediatrician in charge, public health nurse, psychologist, psychiatric social worker, speech consultant, nutrition consultant and volunteers, the clinic has operated on the basis of some 28 scheduled clinics per year. Generally, not more than four to five children are invited for evaluation at each clinic session.

An important part of the clinic program is the post-clinic session held especially for all professional personnel who participate in the clinic preparation and follow-up — such as the psychologist, nutritionist, public health nurse and/or social worker carrying the case in her area, student nurses and staff members of the Department of Education.

The program is centered at Thayer Hospital in Waterville with services available on a state-wide basis. Its chief purpose is to discover the type and extent of retardation, and to offer parent counseling and guidance in home training based on the findings and recommendations of the clinic; also, to coordinate community resources toward habilitation of the mentally retarded child. If indicated, hospitalization for diagnostic purposes will be provided and assistance in treatment of selected concurring handicaps if the parents are unable to provide for such treatment.

Since Maine is a rural state, difficulties in regard to the program, unlike other programs of this type in other states, such as transportation, communication, lack of professional personnel, cultural problems and patterns, were early taken into consideration in setting up the program. Thus, to provide for complete diagnostic services and evaluation of cases, the program had, of necessity, to be limited to one clinic center. Recognizing the need for service to the mentally retarded pre-school child throughout the state, it should be emphasized that such aspects of assistance as health education, parent counseling, nutrition consultation, etc. are available on a statewide scope.

At the outset, a training project, especially one of in-service training for the participating professional staff was set up and carried on through institutes and workshops in cooperation with the Division of Mental Health, Department of Education, and the Pineland Hospital and Training Center for Retarded Children at Pownal. This training is built into the program as a continuing process.

It may be of interest to have some statistics listed and also to know some of the results of psychometric testing of children who have been evaluated at the clinic.

To October 1960, 267 applications have been received. One-third of the cases were referred by private physicians, two-thirds by health department staff and hospitals, a few cases by parents. Two hundred and thirty-two cases have been admitted to service up to October 1960.

To the end of the calendar year 1959, 151 cases were under care. Seventy-three new cases were admitted to the service during that year: 3 under one year of age; 55 from one to four years; 15 from five to six years.

Follow-up: 27 cases were closed from January 1 to December 31, 1959, for these reasons:

In School	10
Withdrawn by parent	1
Admitted to Pineland	5
Deceased	4
Moved out of state	5
No retardation	2
Public Health Nurse visits	263
Cases placed on medication	35
Hospitalizations	2
Hyde Rehabilitation Hospital	1
Consultations	21



Referrals to clinics	8
Electroencephalograms	2
Appliances	
Orthopedic appliances	3
Glasses	3
Hearing Aids	2
Referral to local groups of the Maine Association for Retarded Children	5

The last available year for statistics on speech cover the calendar year 1958. Seventy-two consultations were given and 35 cases stayed on continuing speech therapy.

RESULTS OF PSYCHOMETRIC TESTING OF CHILDREN  
EVALUATED IN STATE CLINIC FOR MENTALLY RETARDED  
PRE-SCHOOL CHILDREN THROUGH MAY, 1960

<i>Results of psychometric testing</i>	<i>Number of children</i>	<i>Per Cent</i>
Low (I.Q. 29 or below)	48*	24.9
Trainable (I.Q. 30-49)	60	31.1
Educable (I.Q. 50-74)	60	31.1
Borderline (I.Q. 75-79)	8	4.1
Slow learners (I.Q. 80-89)	10	5.2
Normal (I.Q. 90 and over)	7	3.6
	193	100.0%

\*For 18 out of the low group of 48, institutionalization was recommended. Twelve of those have been admitted to Pine-land Hospital and Training Center.

Re-testing of the above children was done in yearly intervals. Twenty-two of these children had been tested a second and ten a third time. At the second visit, one child moved from the low group to the trainable group. Out of 10 retested trainable children, 2 regressed to low and 8 progressed to educable. Of the 10 retested educable cases, all 10 regressed to trainable and one who was found a borderline case on first evaluation, regressed to the retarded (educable) status. One progressed from educable to borderline.

As to results of the psychometric testing of the 10 children examined a third time in this respect, these were the findings:

Four children found educable at the first examination regressed to trainable on the second examination and remained in that group on the third examination.

One child moved from trainable to educable on the second examination and regressed to trainable at the third examination.

Three moved from the trainable to the educable group at the second examination, remaining there at the third examination.

One moved from the low group to the trainable group on the second examination and remained there at the third.

One of the educable group remained there at second and third examinations.

PUBLIC HEALTH TRAINING  
COMBINED WITH PEDIATRIC RESIDENCY

The most recent development within the Division's program is one of participation, through a six month Public Health training period, in the Pediatric Residency program set up at Central Maine General Hospital, Lewiston. This two-year Residency Program received the approval of the Residency Review Committee for Pediatrics. Essentially, the plan is as follows: one year Pediatric Residency at Central Maine General Hospital, a six month training period in public health, under supervision of the Director of the Division of Maternal and Child Health of the Department, and a six month Pediatric Residency in one of the Children's Hospitals in Boston. The six month Public Health training provides for experience in a well-rounded public health program on state, district, and local levels, especially emphasizing the set-up in a rural area. The purpose of such plan is that through this experience the pediatric resident, if entering practice, will have a thorough knowledge of Public Health services in the state, or having become indoctrinated in a public health program may seek further training in this field. The public health training will be closely allied with the training and experience offered through the hospital program. Coordination is facilitated by the fact that the supervisor of the training program is also a member of the staff at the hospital.

When the six month period in Public Health training of the resident has been completed, it is planned that a detailed report will be made for the better information of those interested and concerned in this area of medical education.



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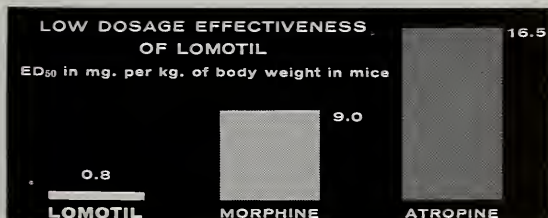
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## County Society Notes

### KNOX

November 8, 1960

A regular meeting of the Knox County Medical Society was held at the Thorndike Hotel in Rockland, Maine on November 8, 1960.

The minutes of the previous meeting were omitted. Dr. Freeman F. Brown of Rockland, who retired from active practice in June 1960, was honored by the society at this meeting. Dr. Ralph P. Earle, in most eloquent fashion, presented a gift of a clock from the society.

An informative talk on recent advances of chemotherapeutics in treatment of cancer was presented by Dr. Stanley C. Beckerman with the able assistance of Dr. Irving I. Goodof both of Waterville, Maine.

Dr. William Ward from Alaska was a guest.

JOHN A. ROOT, M.D.  
*Secretary*

### CUMBERLAND

November 17, 1960

A regular meeting of the Cumberland County Medical Society was held at Valle's Steak House, Portland, Maine.

After a social hour and dinner, the meeting was called to order by the President, Dr. Donald F. Marshall. Sixty-four members and guests were present. The minutes of the previous meeting were read and approved.

A nominating committee was appointed by the President to bring in a slate of officers for the December meeting: Chairman, William L. MacVane, Jr., M.D., Benjamin Zolov, M.D. and Philip P. Thompson, Jr., M.D.

Applications for Honorary, Senior and Affiliate membership were read and voted on. They were as follows: Honorary Members, Drs. James Patterson and Carl M. Robinson; Senior Members, Drs. Horace K. Sowles and DeForest Weeks;

*Continued on page 470*

## Necrology

GARD W. TWADDLE, M.D.

1890 - 1960

Gard W. Twaddle, M.D., of Auburn, died suddenly on July 17, 1960.

Dr. Twaddle was born January 31, 1890, at Bethel, Maine, the son of Dr. and Mrs. John Twaddle of that community. He received his education in the Bethel schools and at Gould

until 1952, when he retired from active service, he was attending surgeon.

Dr. Twaddle has held a unique position in these communities during all these years. Previous to his medical training he was widely known as an outstanding athlete in baseball and basketball. His interest in race horses dates back to his earlier years when at times he drove his father's horses in races.

The practice of his profession to which he devoted practically all of his time increased his many acquaintances, and his colleagues agree that Dr. Twaddle was more widely and affectionately known than any of his contemporaries.

His personality was the answer to this esteem held by his patients and friends who were many and loyal.

He apparently felt instinctively the emotions and even the suffering of his patients and conveyed to them not always in words, but in some way, the sympathy and comfort which they needed. This indeed may be a conjecture, but if true, it is a lesson in human relations which if not inherent could be cultivated by all.

Dr. Twaddle was highly respected by his colleagues. Sometimes dogmatic in his opinions, nevertheless, the sincerity of his judgment was never doubted, and his long practical experience helped much in a problem of diagnosis.

One of his special interests was help for and improvement of the nursing profession. The outcome of this interest is the Scholarship Fund for Nurses at the Central Maine General Hospital and St. Mary's General Hospital.

His was indeed a unique personality. To sum up: One of his patients aptly phrased a depiction of his Doctor. "Yes, rough at times, but with a heart of gold." What more needed.

EUSTACHE N. GIGUERE, M.D.

RALPH A. GOODWIN, SR., M.D.

CHARLES W. STEELE, M.D.



and Hebron Academy. After graduating from Bowdoin Medical School, 1916, he interned at the Central Maine General Hospital for one year, and from 1918 to 1923 was an anesthetist on the Surgical Service. From 1923 to 1935 he was on the Surgical Service as adjunct surgeon, and from then

## News and Notes

### Huddilston Medal Awarded To Francis H. Sleeper, M.D., Of Augusta

Francis H. Sleeper, M.D., superintendent of the Augusta State Hospital, was named 1960 recipient of the Roselle W. Huddilston Medal at the annual meeting of the Maine Tuberculosis and Health Association held in Augusta on October 19.

The Huddilston Medal, each year awarded to a Maine citizen for outstanding and meritorious service in the field of general health to the people of Maine, was named for the late Mrs. John Homer Huddilston of Orono, outstanding voluntary leader and worker in health.



Francis H. Sleeper, M.D., left, of Augusta, receives the coveted Huddilston Medal from Miss Helen Dunn, R.N., of Augusta, 1959 recipient.

In the citation read at the presentation of the medal to Dr. Sleeper, attended by 125 health workers from throughout the state, Miss Dunn stated, "You are all aware of the growth and improvement of the Augusta State Hospital since Dr. Francis H. Sleeper became its superintendent. He has been tireless in his effort to achieve these things. An overcrowded, obsolete, depressing institution, primarily providing only custodial care for a forgotten segment of our population, is now a spacious, modern and effective plant giving comfort, hope and positive help to those who in despondency or despair seek assistance.

"But Dr. Sleeper's contribution to the improvement of the quality of care given mental hospital patients and to the improvement of the physical plants of the hospitals themselves, has not been limited to the Augusta State Hospital.

"Through his educational and promotional efforts, his constant instruction of the Legislature and people as to the facts and mental health needs of the state; he has influenced and contributed to the creation of a climate and understanding which has aided greatly in the modernization of plants and improvement of services at our other two fine hospitals at Bangor and Pownal."

Miss Dunn further stated that the work of Dr. Sleeper has not confined itself to institutional services alone, that "through his willingness to give his time elsewhere, through hundreds of talks, articles and interviews, he has helped to re-define and make understandable the problem of mental illness in the mind

of the public — has helped erase the stigma that was once attached to mental illness.

"This alone," she said, "has resulted in giving hope and encouragement to many and to reduce their fears."

In addition to Miss Dunn previous recipients of the Huddilston Award have been Phillips Merrill Payson, Portland and Dr. Frederick T. Hill, Waterville.

### Maine Doctor Heads Anesthesiology College Board



John R. Lincoln, M.D.

John R. Lincoln, M.D., director of anesthesiology at the Maine Medical Center, is the new chairman of the Board of Governors of the American College of Anesthesiologists — first Maine man ever to hold the high post.

The college is the certifying board of American Society of Anesthesiology which examines specialists in the field throughout the country to determine their qualifications for fellowships in the college.

Dr. Lincoln said that his chief duties will be to direct the policies of the organization between meetings of its board. He has been secretary of the Board of Governors two years and was elected to that board in 1956.

### Maine Society Of Obstetrics And Gynecology

A meeting of the Maine Society of Obstetric and Gynecology was held on November 12 at St. Mary's Hospital in Lewiston, with John A. James, M.D. presiding.

Dr. James presented several cases of infertility treated successfully by surgery. The underlying causes of infertility were varied and included endometriosis, trauma, tunica fibrosis and non-specific inflammatory disease. A lively discussion of pre-operative management and the gynecologic orientation of tissue committees followed. It was emphasized that infertility cases should not be dismissed after simple office examination and no further study.

The meeting was attended by 28 members, associate members and guests. A business meeting was then held at which



time the issues discussed were category credit for members of the AAGP, maternal mortality committees, and Blue Shield fees.

### Maine Chapter, American Academy Of General Practice

The fall clinical meeting of the Maine Chapter of the American Academy of General Practice was held in Bangor on October 29. The organization met at the Eastern Maine General Hospital in Bangor and the Penobscot Valley Country Club in Orono. At this meeting the following officers were elected: President, Sidney R. Branson, M.D., South Windham; President-Elect, Linus J. Stitham, M.D., Dover-Foxcroft; Vice-President, Francis M. Dooley, M.D., Portland; Secretary-Treasurer, John D. Denison, M.D., Gardiner and Chairman, John J. Pearson, Old Town.

### General Practice Opening

There will soon be a fine opening for General Practice in the town of Wilton, Maine. Dr. Maynard B. Colley, M.D. will be moving to Farmington in August of 1961.

His home and office are ideally located on the main street, and will soon be for sale. Inquiries may be sent to: Maynard B. Colley, M.D., Main Street, Wilton, Maine.

### Regional Medico-Legal Conference

Maine M.D.'s are invited to participate in the Regional Medico-Legal Conference to be held in New York City on April 28 and 29, 1960.

Details can be supplied by writing to the Maine Medical Association.

## COUNTY SOCIETY NOTES — *Continued from page 468*

Affiliate Members, Drs. John R. Hamel and Daniel M. Rowe.

The remainder of the evening was taken up with a panel discussion of Press Relations. The members of the panel were: Drs. John F. Gibbons, Francis M. Dooley and C. Philip Lape. The President acted as moderator. Press Panel members were: Mr. Ernest Chard, Managing Editor of the Evening Express; Mr. John K. Murphy, Assistant City Editor and Mr. Frank H. Sleeper, Evening Express Reporter. Mr. Byron Israelson, Assistant City Editor of the Press Herald and Mr. Kenneth W. Berry, Court Reporter of the Evening Express were guests of the society. The views of the medical profession and the press were rather amiably and benignly expressed, and although there were obvious differences not very much heat was generated by the exchange.

ALBERT ARANSON, M.D.  
*Secretary*

### YORK

November 9, 1960

The monthly meeting of the York County Medical Society was held on November 9, 1960 at the Goodall Hospital Nurses Home in Sanford, Maine. Thirteen members were present.

A business meeting was held following a social hour and dinner. The revised By-laws were accepted and the following committees to be appointed: Disaster Committee, Public Relations and Care of the Aged.

It was voted to raise dues to \$75 which would cover cost of meeting and dues.

CHARLES W. KINGHORN, M.D.  
*Secretary*

## BRIEF ORAL THERAPY OF SEVERE DERMATOSES WITH DEXAMETHASONE — *Continued from page 459*

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Supplement to

The Journal of the Maine Medical Association

Volume 51, Number 6

June, 1960



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*Edwin M. Fuller, M.D., Bath	1891-1892	*John O. Piper, M.D., Waterville	1946-1947
*Alfred Mitchell, M.D., Brunswick	1892-1893	Stephen A. Cobb, M.D., Sanford	1947-1948
*John A. Donovan, M.D., Lewiston	1893-1894	Forrest B. Ames, M.D., Bangor	1948-1949
*W. P. Giddings, M.D., Gardiner	1894-1895	Ralph A. Goodwin, M.D., Auburn	1949-1950
*Lewis W. Pendleton, M.D., Portland	1895-1896	Foster C. Small, M.D., Belfast	1950-1951
*D. A. Robinson, M.D., Bangor	1896-1897	C. Harold Jameson, M.D., Rockland	1951-1952
*Wallace K. Oakes, M.D., Auburn	1897-1898	*Eugene H. Drake, M.D., Portland	1952-1953
*Charles O. Hunt, M.D., Portland	1898-1899	Norman H. Nickerson, M.D., Greenville	1953-1954
*Bigelow T. Sanborn, M.D., Augusta	1899-1900	*Robert W. Belknap, M.D., Damariscotta	
*Edward H. Hill, M.D., Lewiston	1900-1901	June-August 1954 (Died in Office)	
*Frederic H. Gerrish, M.D., Portland	1901-1902	William F. Mahaney, M.D., Saco	1954-1955
*Hiram Hunt, M.D., Greenville	1902-1903	Martyn A. Vickers, M.D., Bangor	1955-1956
*Augustus S. Thayer, M.D., Portland	1903-1904	Armand Albert, M.D., Van Buren	1956-1957
*F. L. Dixon, M.D., Lewiston	1904-1905	Francis A. Winchenbach, M.D., Bath	1957-1958
*Randall D. Bibber, M.D., Bath	1905-1906	Eugene E. O'Donnell, M.D., Portland	1958-1959
*C. E. Williams, M.D., Auburn	1906-1907		

\*Deceased

# Members

Active—Honorary—Senior—Affiliate—Junior—Military

## ANDROSCOGGIN COUNTY

*President*—Paul J. B. Forrier, M.D.

*Secretary-Treasurer*—Donald L. Anderson, M.D.

### ACTIVE MEMBERS

Anderson, Donald L. 369 Main St., Lewiston  
 Archambault, Philip L. 346 Main St., Lewiston  
 Beaudet, Simon C. 25 Webster St., Lewiston  
 Beeaker, Vincent H. 85 Wood St., Lewiston  
 Beegel, Paul M. 80 Goff St., Auburn  
 Beliveau, Bertrand A. 56 Howe St., Lewiston  
 Branch, Charles F. Central Maine General Hospital, Lewiston  
 Brien, Maurice 76 Pine St., Lewiston  
 Busch, John J. 105 Elm St., Mechanic Falls  
 Caron, Frederic J. 174 Bates St., Lewiston  
 Carrier, John W. Central Maine General Hospital, Lewiston  
 Chapin, Milan A. 237 Turner St., Auburn  
 Clapp, Waldo A. 215 College St., Lewiston  
 Clapperton, Gilbert 300 Main St., Lewiston  
 Cloutier, Wilfrid A. 210 Sabattus St., Lewiston  
 Cox, William V. 133 Court St., Auburn  
 Davis, Wirt L. 602 N. Thomas St., South Hill, Virginia  
 DuMais, Alcide F. 1832 N.W. 11th Rd., Gainesville, Fla.  
 Dycio, George 55 Broad St., Auburn  
 Dycio, Mary T. 30 Hall St., Lewiston  
 Ferguson, Barbara 80 Goff St., Auburn  
 Fishman, Louis N. 327 Main St., Lewiston  
 Flanders, Merton N. 1 High St., Lewiston  
 Fortier, Paul J. B. 70 Pine St., Lewiston  
 Frost, Robert A. 93 Summer St., Auburn  
 Giguere, Eustache N. 90 Webster St., Lewiston  
 Goldman, Morris E. 524 Main St., Lewiston  
 Goodwin, Ralph A., Jr. 33 Court St., Auburn  
 Green, Ross W. 33 Court St., Auburn  
 Greene, John P. 19 Sabattus St., Lewiston  
 Greene, Merrill S. F. 466 Main St., Lewiston  
 Haas, Rudolph 488 Main St., Lewiston  
 Hannigan, Charles A. 85 Goff St., Auburn  
 Hannigan, Margaret H. 85 Goff St., Auburn  
 Harkins, Michael J. 437 Main St., Lewiston  
 Hiebert, Joelle C., Jr. 369 Main St., Lewiston  
 Horsman, Donald H. 50 Goff St., Auburn  
 James, Chakmakis 47 Howe St., Lewiston  
 James, John A. 117 Goff St., Auburn  
 Konecki, John T. St. Mary's Hospital, Lewiston  
 LaFlamme, Paul J. 106 Russell St., Lewiston  
 Lemaitre, Paul G. 268 Webster St., Lewiston  
 Lidstone, Frederick B. 117 Goff St., Auburn  
 Lynn, Geraldine 188 Russell St., Lewiston  
 Martel, Cyprien L., Jr. 355 Pine St., Lewiston  
 Matuzel, Jane A. 3830 Haven St., Pittsburgh 4, Pennsylvania  
 Methot, Frank P. 256 Lisbon St., Lewiston  
 Miller, Clark F. 46 Madison St., Auburn  
 Miller, Hudson R. 11 Turner St., Auburn  
 Morin, Gerard L. 460 Main St., Lewiston  
 Morissette, Russell A. 460 Main St., Lewiston  
 Nadeau, J. Paul 91 Pine St., Lewiston  
 O'Connell, George B. 11 Lisbon St., Lewiston  
 Potts, Ronald S. Central Maine General Hospital, Lewiston  
 Proulx, Harvey J. 92 Pine St., Lewiston  
 Rand, Carleton H. 219 Oak St., Lewiston  
 Reeves, Edward L. 179 Sabattus St., Lewiston  
 Reeves, Helene M. 179 Sabattus St., Lewiston  
 Rock, Daniel A. 477 Main St., Lewiston  
 Shems, Albert 487 Main St., Lewiston  
 Shields, Daniel R. 369 Main St., Lewiston  
 Spear, William 107 Main St., Lisbon Falls  
 Steele, Charles W. 472 Main St., Lewiston  
 Sweatt, Linwood A. 48 Drummond St., Auburn  
 Swett, Alfred E. 308 Minot Ave., Auburn  
 Tchao, Jou S. 82 Pine St., Lewiston  
 Thacher, Henry C. 117 Goff St., Auburn  
 Tibbetts, Otis B. 181 Gamage Ave., Auburn

Timberlake, Ralph M. Jr.

Central Maine General Hospital, Lewiston  
 Tousignant, Camille 111 Pine St., Lewiston  
 Twaddle, Gard W. 57 Goff St., Auburn  
 Wakefield, Robert D.

Central Maine General Hospital, Lewiston  
 Webber, Wedgwood P. 376 Main St., Lewiston  
 Zanca, Ralph 86 Pine St., Lewiston

### HONORARY MEMBERS

Buker, Edson B. RFD No. 2, Auburn  
 Fahey, William J. 17 Frye St., Lewiston  
 Renwick, Ward J. 102 Goff St., Auburn  
 Winter Address—Colonial Hotel, St. Petersburg, Florida  
 Russell, Daniel F. D. Leeds  
 Webber, Wallace E. 297 Main St., Lewiston

### SENIOR MEMBERS

Chenery, Frederick L., Jr. Monmouth  
 Gauvreau, Horace L. 82 Pine St., Lewiston  
 Goodwin, Ralph A., Sr. 56 Denison St., Auburn  
 Higgins, Everett C. 149 College St., Lewiston  
 Hirshler, Max 25 Bardwell St., Lewiston  
 Pratt, Harold S. Livermore Falls  
 Williams, James A. 40 Pleasant St., Mechanic Falls

### JUNIOR MEMBER

Nadeau, Lawrence A. Veterans Adm. Hospital, So. Huntington Ave., Jamaica Plains, Mass.

### MILITARY SERVICE

Tze, Channam, MC 98 General Hospital, APO No. 34, c/o Postmaster, New York

## AROOSTOOK COUNTY

*President*—Robert B. Somerville, M.D.

*Secretary-Treasurer*—Clyde I. Swett, M.D.

### ACTIVE MEMBERS

Albert, Armand 193 Main St., Van Buren  
 Albert, Joseph L. 4 Pleasant St., Fort Kent  
 Aungst, Melvin R. Morneault Building, Fort Kent  
 Boone, Storer W. 429 Main St., Presque Isle  
 Brennan, Thomas V. 99 Hardy St., Presque Isle  
 Brown, Stephen S. Mars Hill  
 Burr, Charles G. 90 Court St., Houlton  
 Carter, Loren F. Northern Maine San., Presque Isle  
 Carton, Arthur K. Market Square, Houlton  
 Collins, H. Douglas Caribou Clinic, Caribou  
 Donahue, Clement L. 18 Sweden St., Caribou  
 Donahue, Gerald H. 4 Station St., Presque Isle  
 Dunham, Marguerite C. Northern Maine San., Presque Isle  
 Etscovitz, Eli A. Cary Memorial Hospital, Caribou  
 Faucher, Francois J. Grand Isle  
 Frenette, Francis F. 26 Main St., Washburn  
 Frigault, Emile J. Main St., Eagle Lake  
 Giberson, Raymond G. 555 Main St., Presque Isle  
 Gormley, Eugene G. Market Square, Houlton  
 Gregory, Frederick J. 16 High St., Caribou  
 Griffiths, Eugene B. 429 Main St., Presque Isle  
 Harrison, George J. Market Sq., Houlton  
 Harvey, Thomas G. 46 So. Main St., Caribou  
 Hayward, I. Mead So. Main St., Caribou  
 Helfrich, Harry M., Jr. 555 Main St., Presque Isle  
 Higgins, George F. 122 Academy St., Presque Isle  
 Hogan, Chester F. 62 Main St., Houlton  
 Johnson, Gordon N. P. O. Box 86, Houlton  
 Johnson, R. Paul Main St., Fort Kent



Kimball, Herrick C. P. O. Box 372, Fort Fairfield  
 Kirk, William V. Eagle Lake  
 Kramer, Henry F. Caribou Clinic, Caribou  
 Labbe, Onil B. Van Buren  
 Levesque, Romeo J. Frenchville  
 Madigan, John B. Houlton  
 Morrison, James B. Main St., Ashland  
 Page, Rosario A. 20 Sweden St., Caribou  
 Philpot, Van B., Jr. Cary Memorial Hospital, Caribou  
 Pines, Philip Maine St., Limestone  
 Price, Richard D. E. Presque Isle Rd., Caribou  
 Proctor, Ray A. Garden Circle, Caribou  
 Reynolds, Arthur P. 29 Second St., Presque Isle  
 Rideout, Samuel 3 Green St., Fort Fairfield  
 Smith, Carroll H. Box 967, Presque Isle  
 Smith, Margaret S. Box 937, Presque Isle  
 Somerville, Robert B. 473 Main St., Presque Isle  
 Somerville, Wallace B. Mars Hill  
 Sterlin, Andre 10 High St., Fort Kent  
 Swett, Clyde I. 18 Sherman St., Island Falls  
 Toussaint, Leonid G. P. O. Box 9, Fort Kent  
 Vogell, Frederick C. So. Main St., Caribou  
 Warren, H. D. Caribou Clinic, Caribou  
 White, Leland M. So. Main St., Caribou  
 Williams, Edward P. 72 Main St., Houlton  
 Wilson, G. Ivan 40 Court St., Houlton  
 Wilson, Robert D. Arthur R. Gould Memorial Hospital,  
 Presque Isle

#### HONORARY MEMBERS

Doble, Eugene H. 6 Church St., Presque Isle  
 Ebbett, Penry L. B. Houlton

#### SENIOR MEMBER

Donovan, Joseph A. 83 Cushing Ave., Belmont, Mass.

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 Osborne, John R. Veterans Administration, Togus  
 Savage, Richard L. 4 Elm St., Fort Kent

#### JUNIOR MEMBER

Herson, Joseph H. 334 E. 25th St., New York, N. Y.

#### CUMBERLAND COUNTY

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*Secretary-Treasurer*—Albert Aranson, M.D.

#### ACTIVE MEMBERS

Agan, Robert W. 144 State St., Portland  
 Ansell, Harvey B. 39 Deering St., Portland  
 Applin, Hilton H. 6 Cumberland St., Brunswick  
 Aranson, Albert 39 Deering St., Portland  
 Asali, Louis A. 29 Deering St., Portland  
 Asherman, Edward G. 131 Chadwick St., Portland  
 Bachrach, Louis 16 Union St., Brunswick  
 Baldini, Elio 22 Bramhall St., Portland  
 Baldwin, Warren C. 42 Deering St., Portland  
 Barnes, Kirk K. 11 McKen St., Brunswick  
 Bennet, Eben T. 49 Deering St., Portland  
 Bergmann, Jerome W. 255 Western Prom., Portland  
 Bettie, Ronald A. 32 Federal St., Brunswick  
 Bidwell, Robinson L. 31 Bramhall St., Portland  
 Bischoffberger, John M. Naples  
 Bishop, Lloyd W. 211 Vaughan St., Portland  
 Blaisdell, Elton R. 12 Deering St., Portland  
 Blumberg, Edward Box C, Pownal  
 Bove, Louis G. 12 Deering St., Portland  
 Bowman, Anneliese M. Maine Medical Center, Portland  
 Bowman, Peter W. Box C, Pownal  
 Bramhall, Theodore C. 185 Craigie St., Portland  
 Winter address: 3531 Mineola Dr., Sarasota, Florida  
 Branson, Sidney R. 37 Main St., South Windham

Broggi, Frank S.  
 Brown, Douglas H.  
 Burnett, Claude A., Jr.  
 Burns, Robert M.  
 Burrage, William C.  
 Capron, Charles W.  
 Carson, Robert S.  
 Casey, William L.  
 Chase, George O.  
 Chatterjee, Manu  
 Christensen, Harry E.  
 Clark, Frederick B.  
 Clarkin, Charles P.  
 Clemett, Arthur R.  
 Cole, Donald P.  
 Crane, Lawrence  
 Cummings, George O.  
 Cummings, George O., Jr.  
 D'Andrea, Anthony L.  
 Daniels, Donald H.  
 Davidson, David  
 Davidson, Gisela K.  
 Davies, Lloyd G.  
 Davis, Harry E.  
 Derry, G. Hermann  
 Dionne, Maurice J.  
 Dooley, Francis M.  
 Dore, Kenneth E.  
 Dorogi, Louis V.  
 Douphinett, Otis J.  
 Drake, Emerson H.  
 Dunham, Carl E.  
 Dyhrberg, Norman E.  
 Earnhardt, Joseph B.  
 Eppinger, Ernst  
 Fagone, Francis A.  
 Ferguson, Franklin F.  
 Finks, Henry B.  
 Fish, Nicholas  
 Fogg, Philip S., Jr.  
 Fox, Francis H.  
 Freeman, William E.  
 Gates, Clifford W.  
 Geer, Charles R.  
 Geer, George I., Jr.  
 Getchell, Ralph A.  
 Geyerhahn, George  
 Gibbons, John F.  
 Glassmire, Charles R.  
 Goduti, Richard J.  
 Good, Philip G.  
 Greco, Edward A.  
 Hallett, George W., Jr.  
 Hanley, Daniel F.  
 Hanson, Henry W., Jr.  
 Hawkes, Richard S.  
 Hecht, Henry  
 Heifetz, Ralph  
 Herrick, Stanley E., Jr.  
 Hill, Douglas R.  
 Hinckley, Harris  
 Holt, C. Lawrence  
 Hudson, Henry A.  
 Huntress, Roderick L.  
 Ives, Howard R.  
 Jacobson, Payson B.  
 Johnson, Albert C.  
 Johnson, Oscar R.  
 Knowles, Robert M.  
 Lape, C. Philip  
 Lappin, John J.  
 Laughlin, K. Alexander  
 Leary, Gerald C.  
 Leighton, Wilbur F.  
 Leiter, Laban W.  
 Libby, Harold E.  
 Lincoln, John R.  
 Logan, G. E. C.  
 Lombard, Reginald T.  
 Love, Robert B.  
 Lovely, David K.  
 Mack, Francis X.

18 Neal St., Portland  
 548 Shore Rd., Cape Elizabeth  
 59 Deering St., Portland  
 582 Main St., Westbrook  
 57 Deering St., Portland  
 22 Bramhall St., Portland  
 11 McKen St., Brunswick  
 131 State St., Portland  
 144 State St., Portland  
 11 McKen St., Brunswick  
 So. Freeport  
 131 State St., Portland  
 64 Brookside Rd., Portland  
 131 State St., Portland  
 31 Deering St., Portland  
 157 Pine St., Portland  
 47 Deering St., Portland  
 47 Deering St., Portland  
 868 Broadway, So. Portland  
 R.R. #1, Readfield  
 235 State St., Portland  
 235 State St., Portland  
 Fryeburg  
 169 State St., Portland  
 690 Congress St., Portland  
 26-28 Cumberland St., Brunswick  
 53 Deering St., Portland  
 133 Main St., Fryeburg  
 149 Main St., Freeport  
 763 Congress St., Portland  
 18 Bramhall St., Portland  
 188 State St., Portland  
 323 Main St., Cumberland Mills  
 55 Stroudwater St., Westbrook  
 52 Belmont St., Portland  
 312 Congress St., Portland  
 22 Bramhall St., Portland  
 73 Deering St., Portland  
 235 State St., Portland  
 27 Deering St., Portland  
 83 West St., Portland  
 107 Main St., Yarmouth  
 Flagg Meadow Rd., Gorham  
 690 Congress St., Portland  
 690 Congress St., Portland  
 690 Congress St., Portland  
 73 Deering St., Portland  
 22 Bramhall St., Portland  
 58 Deering St., Portland  
 9 Deering St., Portland  
 38 Deering St., Portland  
 12 Pine St., Portland  
 131 State St., Portland  
 58 Federal St., Brunswick  
 Cumberland Center  
 47 Deering St., Portland  
 326 Stevens Ave., Portland  
 173 State St., Portland  
 12 Deering St., Portland  
 855 Sawyer St., South Portland  
 331 Cottage Rd., So. Portland  
 27 Deering St., Portland  
 11 Gage St., Bridgton  
 988 Sawyer St., South Portland  
 31 Deering St., Portland  
 295 Brighton Ave., Portland  
 45 Deering St., Portland  
 18 Deering St., Portland  
 49 Deering St., Portland  
 131 Chadwick St., Portland  
 171 State St., Portland  
 201 State St., Portland  
 144 State St., Portland  
 192 State St., Portland  
 175 Vaughan St., Portland  
 310 Main St., Westbrook  
 22 Bramhall St., Portland  
 131 State St., Portland  
 793 Main St., South Portland  
 75 Main St., Gorham  
 46 Deering St., Portland  
 144 State St., Portland

211 State St., Portland  
 723 Congress St., Portland  
 31 Bramhall St., Portland  
 157 Pine St., Portland  
 142 High St., Portland  
 Kezar Falls  
 131 Chadwick St., Portland  
 157 Pine St., Portland  
 131 Chadwick St., Portland  
 487 Stevens Ave., Portland  
 723 Congress St., Portland  
 49 Deering St., Portland  
 188 State St., Portland  
 159 Maine St., Brunswick  
 13 W. Elm St., Yarmouth  
 29 Deering St., Portland  
 209 State St., Portland  
 73 Deering St., Portland  
 Box C, Pownal  
 752 Main St., Westbrook  
 157 Pine St., Portland  
 131 State St., Portland  
 57 Deering St., Portland  
 180 State St., Portland  
 32 Deering St., Portland  
 73 Deering St., Portland  
 131 Chadwick St., Portland  
 131 Chadwick St., Portland  
 148 State St., Portland  
 11 McKen St., Brunswick  
 Steep Falls  
 112 Vaughn St., Portland  
 316 Woodford St., Portland  
 Chebeague Island  
 529 Gilmore Ave., Trafford, Pa.  
 235 State St., Portland  
 143 Vaughan St., Portland  
 22 Bramhall St., Portland  
 131 Chadwick St., Portland  
 29 Deering St., Portland  
 18 Bramhall St., Portland  
 43 Deering St., Portland  
 171 State St., Portland  
 22 Bramhall St., Portland  
 3 Deering St., Portland  
 32 Deering St., Portland  
 22 Bramhall St., Portland  
 29 Deering St., Portland  
 Box C, Pownal  
 690 Congress St., Portland  
 69 So. High St., Bridgton  
 413 Blackstrap Rd., Falmouth  
 31 Deering St., Portland  
 131 State St., Portland  
 131 State St., Portland  
 148 State St., Portland  
 12 Deering St., Portland  
 1377 Washington Ave., Portland  
 110 Park Ave., Portland  
 Providence Ave., Falmouth Foreside  
 690 Congress St., Portland  
 144 Spring St., Portland  
 704 Congress St., Portland  
 209 State St., Portland  
 8 Cumberland St., Brunswick  
 38 Deering St., Portland  
 836 Main St., Westbrook  
 301 Allen Ave., Portland  
 31 Bramhall St., Portland  
 131 State St., Portland  
 131 State St., Portland  
 36 Federal St., Brunswick  
 29 Deering St., Portland  
 158 Pleasant Ave., Portland  
 655 Congress St., Portland  
 32 Federal St., Brunswick  
 1 Mitchell Rd., South Portland  
 143 Neal St., Portland  
 30 Mitchell Rd., South Portland  
 Main St., Freeport  
 Johnson Rd., Falmouth Foreside

47 Deering St., Portland  
296 Congress St., Portland

Barker, Nathaniel B. T.	1 South St., Yarmouth
Brown, Luther A.	13 Deering St., Portland
Carmichael, Frank E.	72 Deering St., Portland
Cragin, Charles L.	831 Congress St., Portland
Foster, Albert D.	Bay Shore Drive, Falmouth Foreside
Mautner, Hans V.	Route 88, Yarmouth
Moore, Roland B.	17 Clifton Rd., Falmouth

Babalian, Leon	38 Deering St., Portland
Fogg, C. Eugene	35 Deering St., Portland
Foster, Thomas A.	131 State St., Portland
Johnson, Henry P.	32 Deering St., Portland
Melnick, Jacob	333 Congress St., Portland
Moulton, Albert W.	180 State St., Portland
Patterson, James	1 Bay Rd., South Portland
Richardson, C. Earle	3 Cumberland St., Brunswick
Robinson, Carl M.	Waites Landing, R. 99, Portland
Thaxter, Langdon T.	Route 100, Portland

Hamel, John R. 50 Deering St., Portland  
Rowe, Daniel M. Kirkwood Rd., Scarborough Beach

*President*—Herbert M. Zikel, M.D.  
*Secretary-Treasurer*—Philip B. Chase, M.D.

Bowne, Hays G.	9A Main St., Farmington
Brinkman, Harry	47 Perham St., Farmington
Chase, Philip B.	36 Main St., Farmington
Colley, Maynard B.	Main St., Wilton
Covert, Stanley B.	Kingfield
Duffy, Wallace H.	100 Main St., Farmington
Eastman, Charles W.	15 Millet St., Livermore Falls
Fichtner, Paul A.	6 Pleasant St., Rangeley
Florica, Gaetano T.	12 Church St., Chisholm
Floyd, Paul E.	2 Middle St., Farmington
Marsters, David W.	Phillips
Martin, Joseph E.	23 Water St., Livermore Falls
Reed, James W.	18 Main St., Farmington
Rowe, Gunther H.	42 Main St., Livermore Falls
Weymouth, Currier C.	83 Main St., Farmington
Zikel, Herbert M.	High St., Wilton

Pratt, George L. 7 Main St., Farmington

*President*—Llewellyn W. Cooper, M.D.  
*Secretary-Treasurer*—Russell G. Williamson, M.D.

Barry, Richard M.	50 Union St., Ellsworth
Brownlow, Bradley E.	Blue Hill Mem. Hosp., Blue Hill
Cameron, Dwight	Rockend Rd., Northeast Harbor
Coffin, Ernest L.	Northeast Harbor
Coffin, Silas A.	39 High St., Bar Harbor
Cooper, Llewellyn W.	194 Main St., Bar Harbor
Crowe, James H.	121 Main St., Ellsworth
Dolan, Thomas F., Jr.	50 Union St., Ellsworth
Gray, Philip L.	Blue Hill
Herbert, Walter W.	Eastern Memorial Hospital, Ellsworth
Hsu, Theodore S.	14 High St., Ellsworth
Joost, Arthur M., Jr.	P. O. Box B, Bucksport
Knickerbocker, Charles H.	15 High St., Bar Harbor
Kopfmann, Harry	Deer Isle



Lane, Russell M. Water St., Blue Hill  
 Larrabee, Charles F. 48 Mt. Desert St., Bar Harbor  
 Luther, William C. West Sullivan  
 O'Meara, Edward S. Eastern Memorial Hospital, Ellsworth  
 Russell, Robert F. Penobscot  
 Suyama, Eji 58 W. Main St., Ellsworth  
 Thegen, W. Edward Elm St., Bucksport  
 Torrey, Marcus A. 75 State St., Ellsworth  
 Weymouth, Raymond E. 194 Main St., Bar Harbor  
 Wilbur, Herbert T., Jr. P. O. Box 175, Southwest Harbor  
 Williams, Thomas W. 50 Union St., Ellsworth  
 Williamson, Elizabeth E. Blue Hill  
 Williamson, Russell G. Blue Hill

Blue Hill Memorial Hospital, Blue Hill

#### HONORARY MEMBER

Parcher, George 75 Main St., Ellsworth

#### SENIOR MEMBERS

Babcock, Harold S. Castine  
 Bliss, Raymond V. N. P. O. Box 361, Blue Hill

#### MILITARY SERVICE

Black, Paul E. (Capt.) MC USN  
 Naval Air Station, Brunswick  
 Jennings, Richard K. American Embassy, Belgrade,  
 Yugoslavia, c/o Dept. of State, Washington 25, D.C.

#### KENNEBEC COUNTY

*President*—John F. Reynolds, M.D.  
*Secretary-Treasurer*—Arch H. Morrell, M.D.

#### ACTIVE MEMBERS

Ashley, Alta District III, Health Office, Augusta  
 Barnard, John M. H. 21 Western Ave., Augusta  
 Barron, Richard E. Main St., Monmouth  
 Bauman, Clair S. 159 Silver St., Waterville  
 Beckerman, Stanley C. 82 Elm St., Waterville  
 Betts, Anthony Maine Medical Center, Portland  
 Bolduc, Jean L. 173 Main St., Waterville  
 Bourassa, Harvey J. 15 Silver St., Waterville  
 Brann, Henry A. 31 Western Ave., Augusta  
 Breard, J. Alfred 15 Summer St., Waterville  
 Bull, Frank B. 72 Church St., Gardiner  
 Canal, Ory D. Augusta State Hospital, Augusta  
 Chasse, Richard L. 173 Main St., Waterville  
 Cook, Aaron 23 High St., Waterville  
 Crawford, Joseph R. 105 Water St., Augusta  
 Dachslager, Philip 21 Western Ave., Augusta  
 Darlington, Brinton T. Westwood Rd., Augusta  
 Davis, Earle M. 2 School St., Waterville  
 Denison, John D. 105 Brunswick Ave., Gardiner  
 Dennis, Richard H. 33 College Ave., Waterville  
 Dore, Clarence E. 2 School St., Waterville  
 Dunn, Robert H. Veterans Administration, Togus  
 Emanuel, Meyer Veterans Administration, Togus  
 English, Lena M. Veterans Administration, Togus  
 Ervin, Edmund N. 2 School St., Waterville  
 Eves, John H. 106 E. State St., Doylestown, Pa.  
 Fallon, Richard N. 21 Western Ave., Augusta  
 Fisher, Dean H. State House, Augusta  
 Fisher, Samson 173 Main St., Waterville  
 Giddings, Paul D. 31 Western Ave., Augusta  
 Giesen, Joseph H. 34 Gilman St., Waterville  
 Gingras, Adolphe J. 99 Water St., Augusta  
 Gingras, Napoleon J. 6 East Chestnut St., Augusta  
 Goodof, Irving I. Thayer Hospital, Waterville  
 Goodrich, Blynn O. 165 Main St., Waterville  
 Gould, George I. 79 Main St., Richmond  
 Guillemette, Maurice 109 Water St., Augusta  
 Guite, L. Armand 45 Elm St., Waterville  
 Harlow, Edwin W. 177 Main St., Waterville  
 Herring, Leon D. 1 Western Ave., Winthrop  
 Hill, Howard F. 33 College Ave., Waterville  
 Hirschberger, Celia 44 Main St., Waterville

Hornberger, H. Richard  
 Hurd, Allan C.  
 Jackler, Jacob M.  
 Langer, Ella  
 Lepore, Anthony E.  
 Marshall, Joseph A.  
 Mathews, Hugh J., Jr.  
 McLaughlin, Clarence R.  
 McLaughlin, Ivan E.  
 McQuillan, Arthur H.  
 McWethy, Wilson H.  
 Melendy, Oakley A.  
 Michaud, Joseph C.  
 Milliken, Howard H.  
 Moore, Valentine J.  
 Morrell, Arch H.  
 Morris, Craig W.  
 Murphy, Norman B.  
 O'Connor, Francis J.  
 Ohler, Robert L.  
 Pfeiffer, Paul H.  
 Plimpton, Jay R.  
 Pomerleau, Ovid F.  
 Pomerleau, Rodolphe J. F.  
 Poulin, Albert A.  
 Poulin, James E.  
 Pratt, Loring W.  
 Provost, Helen C.  
 Provost, Pierre E.  
 Reynolds, John F.  
 Richards, Lee W., Jr.  
 Robertson, George J.  
 Runyon, William N.  
 Sanders, Stephen W.  
 Saunders, Allen I.  
 Schmidt, Lorrimer M.  
 Seligman, Morris J.  
 Sewall, Kenneth W.  
 Shelton, M. Tieche  
 Shippee, James N.  
 Simpson, Margaret R.  
 Sleeper, Francis H.  
 Smith, Kenneth E.  
 Sommerfeld, Kurt A.  
 Southern, Edward M.  
 Spellman, Francis A.  
 Stinchfield, Allan J.  
 Sturtevant, Vaughn R.  
 Tashiro, Sabro  
 Towne, Charles E.  
 Veilloux, Lucien F.  
 Willard, Harold N.  
 Wilson, Robert W.

2 School St., Waterville  
 72 Church St., Gardiner  
 14 Gilman St., Waterville  
 State House, Augusta  
 72 Church St., Gardiner  
 177 Main St., Waterville  
 345 Water St., Gardiner  
 345 Water St., Gardiner  
 345 Water St., Gardiner  
 177 Main St., Waterville  
 31 Western Ave., Augusta  
 21 Western Ave., Augusta  
 76 Main St., Waterville  
 105 Second St., Hallowell  
 Thayer Hospital, Waterville  
 67 Sewall St., Augusta  
 50 Bangor St., Augusta  
 31 Western Ave., Augusta  
 4 Woodlawn St., Augusta  
 Veterans Administration, Togus  
 14 Gilman St., Waterville  
 283 Water St., Augusta  
 179 Main St., Waterville  
 27 Main St., Waterville  
 Cherry Hill Drive, Waterville  
 177 Main St., Waterville  
 177 Main St., Waterville  
 48 Green St., Augusta  
 48 Green St., Augusta  
 216 Main St., Waterville  
 21 Western Ave., Augusta  
 33 College Ave., Waterville  
 283 Water St., Augusta  
 120 Main St., Winthrop  
 Ferry Rd., R.F.D. No. 2, Augusta  
 Veterans Administration, Togus  
 Veterans Administration, Togus  
 2 School St., Waterville  
 21 Western Ave., Augusta  
 122 Main St., Winthrop  
 Box 275, Togus  
 Box 724, State Hospital, Augusta  
 Veterans Administration, Togus  
 5 Brunswick Ave., Gardiner  
 34 Gilman St., Waterville  
 Veterans Administration, Togus  
 16 E. Chestnut St., Augusta  
 33 College Ave., Waterville  
 181 Highland Ave., Gardiner  
 18 Common St., Waterville  
 185 Grant St., Portland  
 Thayer Hospital, Waterville  
 Veterans Administration, Togus

#### HONORARY MEMBERS

Kagan, Samuel H. 283 Water St., Augusta  
 McKay, Roland L. 57 Eastern Ave., Augusta  
 Newcomb, Charles H. Clinton  
 Priest, Maurice A. 108 South Stone St., Deland, Fla.  
 Risley, Edward H. P.O. Box 143, Prides Crossing, Mass.  
 Shannon, Charles E. G. 9 Park St., Waterville

#### SENIOR MEMBERS

Crawford, Albert S. Box 414, Togus  
 Hill, Frederick T. Thayer Hospital, Waterville  
 Marquardt, Matthias P. O. Box 724, State Hospital, Augusta  
 Reynolds, Ralph L. 216 Main St., Waterville

#### AFFILIATE MEMBERS

Reel, John J. 59 So. Front St., Richmond

#### KNOX COUNTY

*President*—Richard Waterman, M.D.  
*Secretary-Treasurer*—John A. Root, M.D.

#### ACTIVE MEMBERS

Apollonio, Howard L. 22 White St., Rockland  
 Brouwer, Johan 56 Talbot Ave., Rockland

Dennison, Frederick C.	52 Main St., Thomaston
Earle, Ralph P.	Vinalhaven
Eddy, Robert H.	23A Summer St., Rockland
Fuller, Barbara L.	20 Chestnut St., Rockland
Hawkins, Donald B.	Atlantic Ave. and Sea St., Camden
Heath, Parker, Jr.	22 White St., Rockland
Hochschild, Hugo	33 Main St., Thomaston
Hopping, John S.	R.D. No. 2, Union
Jameson, C. Harold	Medical Arts Building, Rockland
Jones, Paul A.	Union
Kibbe, Frank W.	22 White St., Rockland
King, Merrill J.	22 White St., Rockland
King, Merrill J., Jr.	22 White St., Rockland
Lawry, Oram R., Jr.	96 Limerock St., Rockland
Mann, David V.	22 White St., Rockland
McLellan, William A.	87 Chestnut St., Camden
Millington, Paul A.	44 Mountain St., Camden
Morse, Edward K.	22 White St., Rockland
Onat, Mustafa V.	Main St., Port Clyde
Root, John A.	22 White St., Rockland
Soule, Gilmore W.	22 White St., Rockland
Tounge, Harry G., Jr.	12 Union St., Camden
Wasgatt, Wesley N.	41 Talbot Ave., Rockland
Waterman, Richard	Main St., Waldoboro
Worthing, Verla E.	Box A, Thomaston

#### HONORARY MEMBER

Hall, Walter D.	407 Main St., Rockland
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#### SENIOR MEMBERS

Campbell, Fred G.	P. O. Box 484, Warren
Frost, Harold M.	Friendship
Platt, Anna	Beauchamp Rd., Rockport
Winter Address—	110 Manatee Rd., Belleair, Clearwater, Fla.

#### AFFILIATE MEMBERS

Loewenstein, George	Chebeague Island
Waterman, Dorothy	Winter Address — Aripeka, Florida
	Waldoboro

### LINCOLN-SAGADAHOC COUNTY

*President*—Harry M. Wilson, M.D.

*Secretary-Treasurer*—Richard I. Clark, M.D.

#### ACTIVE MEMBERS

Akar, Hamdi	17 Grove St., Bath
Andrews, John F.	20 West St., Boothbay Harbor
Belknap, Samuel L.	Damariscotta
Bostwick, George W.	Route 1, River St., Newcastle
Clark, Richard I.	858 Washington St., Bath
Doble, Miriam	990 Washington St., Bath
Dougherty, John F.	112 Front St., Bath
Gregory, Philip O., St.	Andrews Hospital, Boothbay Harbor
Hamilton, Virginia C.	900 Washington St., Bath
Hutchins, Deane L.	69 Townsend Ave., Boothbay Harbor
Kinder, Edward L., Jr.	1027 Washington St., Bath
Lenfest, Stanley R.	Waldoboro
Nichols, Arthur A.	Edgecomb
Powell, Ralph C.	Damariscotta
Proctor, Thomas E.	Boothbay Harbor
Smith, Jacob	118 Front St., Bath
Smith, Joseph I.	118 Front St., Bath
Tracy, Mary J.	Bristol Rd., Damariscotta
Wilson, Harry M.	944 Middle St., Bath
Winchenbach, Francis A.	910 Washington St., Bath

#### HONORARY MEMBERS

Barrows, Harris C.	5 Oak St., Boothbay Harbor
Day, DeForest S.	Wiscasset
Kershner, Warren E.	57 Green St., Bath
Morin, Harry F.	905 Middle St., Bath

#### SENIOR MEMBERS

Desjardins, Arthur U.	South Bristol
Stetson, Rufus E.	Damariscotta

### OXFORD COUNTY

*President*—Ake Akerberg, M.D.

*Secretary-Treasurer*—Albert P. Royal, Jr., M.D.

#### ACTIVE MEMBERS

Akerberg, Ake	10 Maple St., South Paris
Aucoin, Peter B.	87 Congress St., Rumford
Bean, H. Richard	171 Main St., Norway
Defoe, Garfield G.	Dixfield
Dixon, Walter G.	16 Deering St., Norway
Elsemore, Dexter E.	11 Main St., Dixfield
Grish, Albert J.	18 Hartford St., Rumford
Harper, Harry L.	17 Main St., South Paris
Howard, Henry M.	105 Franklin St., Rumford
Hubbard, Roswell E.	Waterford
Jackson, Norman M.	89 Congress St., Rumford
McCormack, Roland L.	12 Bridge St., Norway
Miller, George W.	Norway National Bank Building, Norway
Moore, Beryl M.	Oxford
Nangle, Thomas P.	West Paris
Oestrich, Alfred	89 Congress St., Rumford
Perkins, Niles L., Jr.	Oxford Paper Co., Rumford
Rowe, Linwood M.	11 Franklin St., Rumford
Royal, Albert P., Jr.	82 Maine Ave., Rumford
Young, John	Bethel

#### HONORARY MEMBERS

Greene, John A.	96 Congress St., Rumford
Pearson, Henry	Brownfield
Stewart, Delbert M.	15 Main St., South Paris

#### SENIOR MEMBERS

Adams, Lester	9 Knox St., Thomaston
Kay, Edwin	31 Frye St., Lewiston
MacDougall, James A.	303 Penobscot St., Rumford
Mills, Nathaniel	Harrison
Nelson, Chesley W.	121 Main St., Norway
Stanwood, Harold W.	York

#### JUNIOR MEMBERS

Broughton, David S.	1 Pin Oak Lane, Louisville, Ky.
Lanni, John P.	Hitchcock Clinic, Hanover, N. H.

#### MILITARY SERVICE

Boynton, Willard H.	USOM/H&S Div., Box 32, Navy 150, C/O FPO, San Francisco, California
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### PENOBSCOT COUNTY

*President*—Albert C. Todd, M.D.

*Secretary*—Philip B. Thomas, M.D.

*Treasurer*—Edward C. Porter, M.D.

#### ACTIVE MEMBERS

Adams, Asa C.	68 Main St., Orono
Adams, Winford C.	255 North Main St., Brewer
Ames, Forrest B.	255 Hammond St., Bangor
Babcock, Albert L.	316 State St., Bangor
Babcock, Edward B.	115 Wilson St., Brewer
Barrett, Robert J., Jr.	209 State St., Bangor
Barton, Michael	200 Somerset St., Millinocket
Blackburn, Nelson P.	489 State St., Bangor
Blaisdell, Carl E.	47 Broadway, Bangor
Blaisdell, William B., Jr.	47 Broadway, Bangor
Blinder, Philip	128 Broadway, Bangor



Bridges, Donald E. 209 State St., Bangor  
 Brown, Eugene E. 57 Summit Ave., Bangor  
 Brown, Lloyd 316 State St., Bangor  
 Burke, John E. 268 State St., Bangor  
 Burke, Paul W. 5 High St., Newport  
 Butler, Harry 77 Broadway, Bangor  
 Butterfield, Wilfred I. 119 Main St., Lincoln  
 Chason, Sidney 173 Pine St., Bangor  
 Clement, James D., Jr. 77 Essex St., Bangor  
 Clough, Dexter J., 2nd 224 State St., Bangor  
 Cornell, Robert C. 118 Forest Ave., Orono  
 Coulton, Donald 326 State St., Bangor  
 Cross, Harold D.

Main Rd. and Summer St., Hampden Highlands  
 Curran, Edward L. 209 State St., Bangor  
 Cutler, Lawrence M. 31 Grove St., Bangor  
 Desjardins, Richard F. 240 Penobscot Ave., Millinocket  
 Dietrich, Mary M. P. O. Box 8, Orrington  
 Duffey, Richard V. 187 N. Main St., Brewer  
 Dunham, Rand A. P. O. Box 68, East Millinocket  
 Dwyer, Clement S. 205 French St., Bangor  
 Emerson, W. Merritt 131 State St., Bangor  
 Emery, Frederick C. 242 Cedar St., Bangor  
 Feeley, J. Robert 316 State St., Bangor  
 Fergus, Andrew 128 Broadway, Bangor  
 Gaillard, Richard A. 276 State St., Bangor  
 Gilman, Herbert C. 240 Penobscot Ave., Millinocket  
 Gloor, Robert F. Box 247, Agana, Guam, M. I.  
 Graves, Robert A. Sunset Dr., Orono  
 Hall, Walter L. H. 130 Middle St., Old Town  
 Hamlin, Irvin E. Main St., East Millinocket  
 Hill, Allison K. 113 Somerset St., Bangor  
 Houlihan, John S. 209 State St., Bangor  
 Hughes, Edward J., Jr. 255 No. Main St., Brewer  
 Irwin, Carl W. 262 State St., Bangor  
 Kadi, Francis J. Bangor State Hospital, Bangor  
 Kellogg, Robert O. 316 State St., Bangor  
 Leddy, Percy A.

Dir., Student Health Dept., Univ. of Maine, Orono  
 Lee, Kong 105 Center St., Old Town  
 Lieberman, Arthur N. 180 Broadway, Bangor  
 Macdonald, Donald F. 263 State St., Bangor  
 Manter, Wilbur B. 1 Fern St., Bangor  
 Mason, Peter H.

Millinocket Community Hospital, Millinocket  
 McEvoy, Charles D., Jr. 316 State St., Bangor  
 McNamara, Wesley C. 8 Lee St., Lincoln  
 McQuoid, Robert M. 39 Columbia St., Bangor  
 Memmelaar, Joseph E. 54 Forest Ave., Bangor  
 Merrill, Urban H. 13 Water St., Newport  
 Miragliuolo, Leonard G. 10 Maple St., Bangor  
 Moulton, Gardner N. 5 Grove St., Bangor  
 Munce, Richard F. 262 State St., Bangor  
 Nesin, Bourcard 10 Water St., Howland  
 O'Kane, Francis R. 122 Penobscot Ave., Millinocket  
 Osler, Jay K. 74 Birch St., Bangor  
 Palmer, Thomas H., Jr. 316 State St., Bangor  
 Parrot, Hadley 74 Somerset St., Bangor  
 Pearson, John J. 100 S. Main St., Old Town  
 Pooler, Harold A. Bangor State Hospital, Bangor  
 Porter, Edward C. 489 State St., Bangor  
 Purinton, William A. 15 Ohio St., Bangor  
 Ridlon, Magnus F. 99 Broadway, Bangor  
 Ruhlin, Carl W. 205 French St., Bangor  
 Sewall, Elmer M. 14 Park St., Orono  
 Shapero, Benjamin L. 142 Pine St., Bangor  
 Shubert, Alice J. 317 State St., Bangor  
 Shubert, William M. 317 State St., Bangor  
 Shurman, Hans 10 Spring St., Dexter  
 Smith, Hugh A. Eastern Maine General Hospital, Bangor  
 Striar, Ronald R. 94 Essex St., Bangor  
 Strout, Warren G. 205 French St., Bangor  
 Sullivan, John R. 340 North Main St., Brewer  
 Taylor, H. Lewis 25 Church St., Dexter  
 Thomas, Philip B. 205 French St., Bangor  
 Todd, Albert C. 185 North Main St., Brewer  
 Trowbridge, Mason, Jr. 142 Pine St., Bangor  
 Van Duyn, John 205 French St., Bangor  
 Vickers, Martyn A. 268 State St., Bangor  
 Wadsworth, Richard C. 489 State St., Bangor  
 Wagner, Samuel L. 2 Holmes St., Winterport

Walker, George R. 128 Broadway, Bangor  
 Weisz, Hans 194 Main St., Lincoln  
 Whitney, Byron V. 280 State St., Bangor  
 Whitworth, John E. 116 Hammond St., Bangor  
 Wood, George W., III 156 No. Main St., Brewer  
 Woodcock, Allan 35 Second St., Bangor  
 Woodcock, John A. 35 Second St., Bangor

#### HONORARY MEMBERS

Craig, Allan 28 Baraud Rd., Scarsdale, N. Y.  
 Devan, Thomas A. 10245-47th Ave., Corona, L. I., N. Y.  
 Hedin, Carl J. Penobscot Terrace, Brewer  
 Higgins, George I. 15 Water St., Newport  
 Mason, Luther S. 109 State St., Bangor  
 Purinton, Watson S. 15 Ohio St., Bangor

#### SENIOR MEMBERS

McNeil, Harry D. 81 Silver Rd., Bangor  
 Scribner, Herbert C. 29 Summit Ave., Wakefield, Mass.  
 Weatherbee, George B. Main St., Hampden

#### AFFILIATE MEMBERS

DeWitt, James C. 1313 Jefferson St., Cuyahoga Falls, Ohio  
 Knowlton, Henry C. 245 Center St., Bangor

#### MILITARY SERVICE

Clough, Herbert T., (Lt. Col.) MC USAF  
 5325 Vandenberg Ave., T.A.F.B., Oklahoma City, Oklahoma

#### PISCATAQUIS COUNTY

President—John B. Curtis, M.D.  
 Secretary-Treasurer—James H. Johnson, Jr., M.D.

#### ACTIVE MEMBERS

Bradbury, Francis W. 16 E. Main St., Dover-Foxcroft  
 Carde, Albert M. 33 Elm St., Milo  
 Curtis, John B. 10 High St., Milo  
 Howard, George C. Oak St., Guilford  
 Johnson, James H., Jr. 36 Elm St., Milo  
 Lightbody, Charles H. No. Main St., Guilford  
 Nelson, Isaac Box 336, Greenville  
 Nickerson, Norman H. Greenville  
 Nielsen, Odd S. 85 Pleasant St., Dexter  
 Stitham, Linus J. 50 Main St., Dover-Foxcroft  
 Stuart, Ralph C. Guilford  
 Valentine, John B. 9 E. Main St., Dover-Foxcroft

#### HONORARY MEMBERS

MacDougal, Wilbur E. 186 Nowell Rd., Bangor  
 Pritham, Fred J. Greenville Junction

#### SENIOR MEMBER

Stanhope, Charles N. South St., Dover-Foxcroft

#### AFFILIATE MEMBER

Bundy, Harvey C. Milo

#### SOMERSET COUNTY

President—Albert J. Bernard, M.D.  
 Secretary-Treasurer—Harland G. Turner, M.D.

#### ACTIVE MEMBERS

Amrein, H. Carl 29 Weston Ave., Madison  
 Ball, Franklin P. Bingham

Bernard, Albert J. 198 Madison Ave., Skowhegan  
 Briggs, Paul R. Hartland  
 Greenlaw, William A. 129 Main St., Fairfield  
 Grow, William B. Central Maine Sanatorium, Fairfield  
 Hornstein, Louis S. 220 Water St., Skowhegan  
 Jordan, W. Edward, Jr. 68 Water St., Skowhegan  
 Kemezys, Kestutis M. 25 Garfield St., Madison  
 Laney, Richard P. 50 Water St., Skowhegan  
 Lord, Edwin M. 39 High St., Skowhegan  
 Philbrick, Maurice S. 292 Water St., Skowhegan  
 Reed, Howard L. 68 Water St., Skowhegan  
 Smith, Edgar J. I Park St., Fairfield  
 Smith, Henry F. Jackman Station  
 Strickland, Marian L. Easy St., Canaan  
 Sullivan, George E. RFD 1, Fairfield  
 Szelenyi, Ernest Central Maine Sanatorium, Fairfield  
 Szendey, Andrew M. 26 Gray St., Madison  
 Turner, Harland G. RFD 2, Norridgewock

#### HONORARY MEMBERS

Humphreys, Ernest D. 91 Main St., Pittsfield  
 Marston, Henry E. No. Anson

#### SENIOR MEMBERS

Lord, Maurice E. Dees Cabins, Lake Placid, Florida  
 Young, George E. 159 Water St., Skowhegan

#### WALDO COUNTY

*President*—Ward A. Albro, M.D.

*Secretary-Treasurer*—Seth H. Read, M.D.

#### ACTIVE MEMBERS

Albro, Ward A. 27 Northport Ave., Belfast  
 Caswell, John A. 16 Waldo Ave., Belfast  
 Cobb, Norman E. 132 Main St., Belfast  
 Read, Seth H. 15 Church St., Belfast  
 Stein, Ernest W. 72 Main St., Pittsfield  
 Temple, George L. Fahey St., Belfast  
 Torrey, Raymond L. Main St., Searsport  
 Webber, John R. Dark Harbor

#### SENIOR MEMBERS

Cunningham, Allan R. R.F.D. 4, Belfast  
 Small, Foster C. 169 High St., Belfast  
 Stevens, Carl H. 18 Franklin St., Belfast

#### WASHINGTON COUNTY

*President*—Harold G. Sears, M.D.

*Secretary-Treasurer*—Karl V. Larson, M.D.

#### ACTIVE MEMBERS

Bates, James C. Eastport  
 French, Rowland B. 16 Water St., Eastport  
 Jacob, Donald R. Princeton  
 Kazutow, John P. O. Box 24, Ellsworth  
 Kiel, Joseph B. Columbia Falls  
 Larson, Karl V. East Machias  
 MacBride, Robert G. 25 Washington St., Lubec  
 Mitchell, Hazen C. Calais  
 Mundie, Perley J. 32 North St., Calais  
 Nackle, George N. 1 School St., Machias  
 Rice, William C. Main St., Calais  
 Sears, Harold G. Second Ave., Woodland  
 Southworth, John D. 49 Washington St., Calais  
 Webber, Samuel R. Calais

#### SENIOR MEMBERS

Armstrong, Charles M. Robbinston  
 Bennet, DaCosta F. 4 Main St., Lubec

#### YORK COUNTY

*President*—Robert F. Ficker, M.D.

*Secretary-Treasurer*—Charles W. Kinghorn, M.D.

#### ACTIVE MEMBERS

Anton, Thomas 260 Main St., Biddeford  
 Bacon, Melvin 122 Main St., Sanford  
 Belmont, Ralph S. 6 Washington St., Sanford  
 Charest, Leandre R. 314 Alfred St., Biddeford  
 Cuneo, Kenneth J. 31 Summer St., Kennebunk  
 Dennett, Carl G. 258 Main St., Saco  
 Dionne, William E. 75 Main St., Springvale  
 Downing, J. Robert 35 Sumner St., Kennebunk  
 Drummond, S. Dunton Bar Mills  
 Endicott, Ruth E. 16 Main St., Ogunquit  
 Ficker, Robert F. Maine St., Kennebunkport  
 Fortier, Andre P. 68 Foss St., Biddeford  
 Haas, Carl M. 357 Elm St., Biddeford  
 Hill, Paul S., Jr. 323 Main St., Saco  
 Hoffman, Alvin A. P. O. Box 222, York  
 Hopkins, Herbert J. 24 Portland Ave., Old Orchard  
 Houle, Marcel P. 200 Alfred St., Biddeford  
 Jellerson, Leon R. 34 Winter St., Sanford  
 Johnston, James S. York Harbor  
 LaFond, Robert S. 258 Main St., Saco  
 Lapirow, Harry 99 Main St., Kennebunk  
 Leigh, Kenneth E. Brixham Rd., York  
 Lesieur, Louis C. 66 Beach St., Saco  
 Lincourt, Armand S. 122 Main St., Sanford  
 Magaudda, Michael M. P. 39 Old Orchard St., Old Orchard Beach  
 Magocsi, Alexander W. York  
 Mahaney, William F. 338 Main St., Saco  
 Mazzacane, Walter D. Old Orchard  
 Moulton, Marion A. K. West Newfield  
 Murphy, John J. 84 Portland St., South Berwick  
 Myer, John C. Nasson College, Springvale  
 O'Sullivan, William B. 331 Main St., Saco  
 Ouellette, Marcel D. 114 Main St., Sanford  
 Patane, Joseph M. 256 Alfred St., Biddeford  
 Perrault, Oscar W. 30 South Street, Biddeford  
 Peterlein, Walter R., Jr. 75 Main St., Springvale  
 Richards, Carl E. 34 Winter St., Sanford  
 Robert, Roger J. P. 331 Main St., Saco  
 Ross, Maurice 372 Main St., Saco  
 Roussin, William T. 48 Bacon St., Biddeford  
 Smith, Gerald R. Ogunquit  
 Smith, Oney P. Post Rd., Wells  
 Taylor, Paul E. 9 Wentworth St., Kittery  
 Vachon, Robert D. 34 Winter St., Sanford  
 Viger, Leopold A. 176 Elm St., Biddeford  
 Wolfahrt, Eugene P. 338 Main St., Saco

#### HONORARY MEMBERS

Bunker, Willard H. York Harbor  
 Davis, Ansel S. Springvale  
 Head, Owen B. 98 Main St., Sanford  
 Laroche, Joseph R. 42 Bacon St., Biddeford  
 Sever, James W. Cape Neddick  
 Stickney, Laura B. 10 Cutts Ave., Saco  
 Whitney, Ray L. Cape Porpoise

#### SENIOR MEMBERS

Cobb, Stephen A. 34 Winter St., Sanford  
 Kinghorn, Charles W. 4 Wentworth St., Kittery  
 Ross, H. Danforth 34 Winter St., Sanford

#### HONORARY MEMBER-AT-LARGE

Locke, Herbert E., Attorney

Augusta



# An Alphabetical List of the Members of the Maine Medical Association

\* The figures in parentheses refer to County Societies as follows: (1) Androscoggin, (2) Aroostook, (3) Cumberland, (4) Franklin, (5) Hancock, (6) Kennebec, (7) Knox, (8) Lincoln-Sagadahoc, (9) Oxford, (10) Penobscot, (11) Piscataquis, (12) Somerset, (13) Waldo, (14) Washington, (15) York.

## A

Adams, Asa C., 68 Main St., Orono (10)  
 Adams, Lester, 9 Knox St., Thomaston (9)  
 Adams, Winford C., 255 North Main St., Brewer (10)  
 Agan, Robert W., 144 State St., Portland (3)  
 Akar, Hamdi, 17 Grove St., Bath (8)  
 Akerberg, Ake, 10 Maple St., South Paris (9)  
 Albert, Armand, 193 Main St., Van Buren (2)  
 Albert, Joseph L., 4 Pleasant St., Fort Kent (2)  
 Albro, Ward A., 27 Northport Ave., Belfast (13)  
 Ames, Forrest B., 255 Hammond St., Bangor (10)  
 Amrein, H. Carl, 29 Weston Ave., Madison (12)  
 Anderson, Donald L., 369 Main St., Lewiston (1)  
 Andrews, John F., 20 West St., Boothbay Harbor (8)  
 Ansell, Harvey B., 39 Deering St., Portland (3)  
 Anton, Thomas, 260 Main St., Biddeford (15)  
 Apollonio, Howard L., 22 White St., Rockland (7)  
 Applin, Hilton H., 6 Cumberland St., Brunswick (3)  
 Aranson, Albert, 39 Deering St., Portland (3)  
 Archambault, Philip L., 346 Main St., Lewiston (1)  
 Armstrong, Charles M., Robbinston (14)  
 Asali, Louis A., 29 Deering St., Portland (3)  
 Asherman, Edward G., 131 Chadwick St., Portland (3)  
 Ashley, Alta, Dist. III, Health Office, Augusta (6)  
 Aucoin, Peter B., 87 Congress St., Rumford (9)  
 Aungst, Melvin R., Mornecault Building, Fort Kent (2)

## B

Babalian, Leon, 38 Deering St., Portland (3)  
 Babcock, Albert L., 316 State St., Bangor (10)  
 Babcock, Edward B., 115 Wilson St., Brewer (10)  
 Babcock, Harold S., Castine (3)  
 Bachrach, Louis, 16 Union St., Brunswick (3)  
 Bacon, Melvin, 122 Main St., Sanford (15)  
 Baldini, Elio, 22 Bramhall St., Portland (3)  
 Baldwin, Warren C., 42 Deering St., Portland (3)  
 Ball, Franklin P., Bingham (12)  
 Barker, Nathaniel B. T., 1 South St., Yarmouth (3)  
 Barnard, John M. H., 21 Western Ave., Augusta (6)  
 Barnes, Kirk K., 11 McKean St., Brunswick (3)  
 Barrett, Robert J., Jr., 209 State St., Bangor (10)  
 Barron, Richard E., Main St., Monmouth (6)  
 Barrows, Harris C., 5 Oak St., Boothbay Harbor (8)  
 Barry, Richard M., 50 Union St., Ellsworth (5)  
 Barton, Michael, 200 Somerset St., Millinocket (10)  
 Bates, James C., Eastport (14)  
 Bauman, Clair S., 159 Silver St., Waterville (6)  
 Bean, H. Richard, 171 Main St., Norway (9)  
 Beaudet, Simon C., 25 Webster St., Lewiston (1)  
 Beckerman, Stanley C., 82 Elm St., Waterville (6)  
 Beeaker, Vincent H., 85 Wood St., Lewiston (1)  
 Beegel, Paul M., 80 Goff St., Auburn (1)  
 Beliveau, Bertrand A., 56 Howe St., Lewiston (1)  
 Belknap, Samuel L., Damariscotta (8)  
 Belmont, Ralph S., 6 Washington St., Sanford (15)  
 Bennet, DaCosta F., 4 Main St., Lubec (14)  
 Bennet, Eben T., 49 Deering St., Portland (3)  
 Bergmann, Jerome W., 255 Western Prom., Portland (3)  
 Bernard, Albert J., 198 Madison Ave., Skowhegan (12)  
 Bettie, Ronald A., 32 Federal St., Brunswick (3)  
 Betts, Anthony, Maine Medical Center, Portland (6)  
 Bidwell, Robinson L., 31 Bramhall St., Portland (3)  
 Bischoffberger, John M., Naples (3)  
 Bishop, Lloyd W., 211 Vaughan St., Portland (3)  
 Black, Paul E., Capt. Naval Air Station, Brunswick (5)  
 Blackburn, Nelson P., 489 State St., Bangor (10)  
 Blaisdell, Carl E., 47 Broadway, Bangor (10)  
 Blaisdell, Elton R., 12 Deering St., Portland (3)  
 Blaisdell, William B., Jr., 47 Broadway, Bangor (10)  
 Blinder, Philip, 128 Broadway, Bangor (10)

Bliss, Raymond V. N., P. O. Box 361, Blue Hill (5)  
 Blumberg, Edward, Box C, Pownal (3)  
 Bolduc, Jean L., 173 Main St., Waterville (6)  
 Boone, Storer W., 429 Main St., Presque Isle (2)  
 Bostwick, George W., Route 1, River St., Newcastle (8)  
 Bourassa, Harvey J., 15 Silver St., Waterville (6)  
 Bove, Louis G., 12 Deering St., Portland (3)  
 Bowman, Anneliese M., Maine Medical Center, Portland (3)  
 Bowman, Peter W., P. O. Box C, Pownal (3)  
 Bowne, Hays G., 9A Main St., Farmington (4)  
 Boynton, Willard H., USOM/H&S Div., Box 32, Navy 150, c/o FPO, San Francisco, California (9)  
 Bradbury, Francis W., 16 E. Main St., Dover-Foxcroft (11)  
 Bramhall, Theodore C., 185 Craigie St., Portland (3)  
 Branch, Charles F., Central Maine General Hospital, Lewiston (1)  
 Brann, Henry A., 31 Western Ave., Augusta (6)  
 Branson, Sidney R., 37 Main St., South Windham (3)  
 Breard, J. Alfred, 15 Summer St., Waterville (6)  
 Brennan, Thomas V., 99 Hardy St., Presque Isle (2)  
 Bridges, Donald E., 209 State St., Bangor (10)  
 Briggs, Paul R., Hartland (12)  
 Brien, Maurice, 76 Pine St., Lewiston (1)  
 Brinkman, Harry, 47 Perham St., Farmington (4)  
 Broggi, Frank S., 18 Neal St., Portland (3)  
 Broughton, David S., 1 Pin Oak Lane, Louisville, Ky. (9)  
 Brouwer, Johan, 56 Talbot Ave., Rockland (7)  
 Brown, Douglas H., 548 Shore Rd., Cape Elizabeth (3)  
 Brown, Eugene E., 57 Summit Ave., Bangor (10)  
 Brown, Lloyd, 316 State St., Bangor (10)  
 Brown, Luther A., 13 Deering St., Portland (3)  
 Brown, Stephen S., Mars Hill (2)  
 Brownlow, Bradley E., Blue Hill Memorial Hospital, Blue Hill (5)  
 Buker, Edson B., R. F. D. No. 2, Auburn (1)  
 Bull, Frank B., 72 Church St., Gardiner (6)  
 Bundy, Harvey C., Milo (11)  
 Bunker, Willard H., York Harbor (15)  
 Burke, John E., 268 State St., Bangor (10)  
 Burke, Paul W., 5 High St., Newport (10)  
 Burnett, Claude A. Jr., 59 Deering St., Portland (3)  
 Burns, Robert M., 582 Main St., Westbrook (3)  
 Burr, Charles G., 90 Court St., Houlton (2)  
 Burrage, William C., 57 Deering St., Portland (3)  
 Busch, John J., 105 Elm St., Mechanic Falls (1)  
 Butler, Harry, 77 Broadway, Bangor (10)  
 Butterfield, Wilfred I., 119 Main St., Lincoln (10)

## C

Cameron, Dwight, Rockend Rd., Northeast Harbor (5)  
 Campbell, Fred G., Box 484, Warren (7)  
 Canal, Ory D., Augusta State Hospital, Augusta (6)  
 Capron, Charles W., 22 Bramhall St., Portland (3)  
 Carde, Albert M., 33 Elm St., Milo (11)  
 Carmichael, Frank E., 72 Deering St., Portland (3)  
 Caron, Frederic J., 174 Bates St., Lewiston (1)  
 Carrier, John W., Central Maine General Hospital, Lewiston (1)  
 Carson, Robert S., 11 McKean St., Brunswick (3)  
 Carter, Loren F., Northern Maine San., Presque Isle (2)  
 Carton, Arthur K., Market Square, Houlton (2)  
 Casey, William L., 131 State St., Portland (3)  
 Caswell, John A., 16 Waldo Ave., Belfast (13)  
 Chapin, Milan A., 237 Turner St., Auburn (1)  
 Charest, Leandre R., 314 Alfred St., Biddeford (15)  
 Chase, George O., 144 State St., Portland (3)  
 Chase, Philip B., 36 Main St., Farmington (4)  
 Chason, Sidney, 173 Pine St., Bangor (10)  
 Chasse, Richard L., 173 Main St., Waterville (6)  
 Chatterjee, Manu, 11 McKean St., Brunswick (3)  
 Chenery, Frederick L. Jr., Monmouth (1)  
 Christensen, Harry E., South Freeport (3)

Clapp, Waldo A., 215 College St., Lewiston (1)  
 Clapperton, Gilbert, 300 Main St., Lewiston (1)  
 Clark, Frederick B., 131 State St., Portland (3)  
 Clark, Richard I., 858 Washington St., Bath (8)  
 Clarkin, Charles P., 64 Brookside Rd., Portland (3)  
 Clement, James D., Jr., 77 Essex St., Bangor (10)  
 Clemett, Arthur R., 131 State St., Portland (3)  
 Clough, Dexter J., 2nd, 224 State St., Bangor (10)  
 Clough, Herbert T., Lt. Col., MC USAF, 5325 Vandenberg Ave., T.A.F.B., Oklahoma City, Oklahoma (10)  
 Cloutier, Wilfrid A., 210 Sabattus St., Lewiston (1)  
 Cobb, Norman E., 132 Main St., Belfast (13)  
 Cobb, Stephen A., 34 Winter St., Sanford (15)  
 Coffin, Ernest L., Northeast Harbor (5)  
 Coffin, Silas A., 39 High St., Bar Harbor (5)  
 Cole, Donald P., 31 Deering St., Portland (3)  
 Colley, Maynard B., Main St., Wilton (4)  
 Collins, H. Douglas, Caribou Clinic, Caribou (2)  
 Cook, Aaron, 23 High St., Waterville (6)  
 Cooper, Llewellyn W., 194 Main St., Bar Harbor (5)  
 Cornell, Robert C., 118 Forest Ave., Orono (10)  
 Coulton, Donald, 326 State St., Bangor (10)  
 Covert, Stanley B., Kingfield (4)  
 Cox, William V., 133 Court St., Auburn (1)  
 Cragin, Charles L., 831 Congress St., Portland (3)  
 Craig, Allan, 28 Baraud Rd., Scarsdale, New York  
 Crane, Lawrence, 157 Pine St., Portland (3)  
 Crawford, Albert S., Box 414, Togus (6)  
 Crawford, Joseph R., 105 Water St., Augusta (6)  
 Cross, Harold D., Main Rd. & Summer St., Hampden Highlands (10)  
 Crowe, James H., 121 Main St., Ellsworth (5)  
 Cummings, George O., 47 Deering St., Portland (3)  
 Cummings, George O., Jr., 47 Deering St., Portland (3)  
 Cuneo, Kenneth J., 31 Summer St., Kennebunk (15)  
 Cunningham, Allan R., R.F.D. 4, Belfast (13)  
 Curran, Edward L., 209 State St., Bangor (10)  
 Curtis, John B., 10 High St., Milo (11)  
 Cutler, Lawrence M., 31 Grove St., Bangor (10)

## D

Dachslager, Philip, 21 Western Ave., Augusta (6)  
 D'Andrea, Anthony L., 868 Broadway, So. Portland (3)  
 Daniels, Donald H., R.R. No. 1, Readfield (3)  
 Darlington, Brinton T., Westwood Rd., Augusta (6)  
 Davidson, David, 235 State St., Portland (3)  
 Davidson, Gisela K., 235 State St., Portland (3)  
 Davies, Lloyd G., Fryeburg (3)  
 Davis, Ansel S., Springvale (15)  
 Davis, Earle M., 2 School St., Waterville (6)  
 Davis, Harry E., 169 State St., Portland (3)  
 Davis, Wirt L., 602 N. Thomas St., South Hill, Virginal (1)  
 Day, DeForest S., Wiscasset (8)  
 Defoe, Garfield G., Dixfield (9)  
 Denison, John D., 105 Brunswick Ave., Gardiner (6)  
 Dennett, Carl G., 258 Main St., Saco (15)  
 Dennis, Richard H., 33 College Ave., Waterville (6)  
 Dennison, Frederick C., 52 Main St., Thomaston (7)  
 Derry, G. Hermann, 690 Congress St., Portland (3)  
 Desjardins, Arthur U., South Bristol (8)  
 Desjardins, Richard F., 240 Penobscot Ave., Millinocket (10)  
 Devan, Thomas A., 10245-47th Ave., Corona, L. I., N. Y. (10)  
 DeWitt, James C., 1313 Jefferson St., Cuyahoga Falls, Ohio (10)  
 Dietrich, Mary M., P. O. Box 8, Orrington (10)  
 Dionne, Maurice J., 26-28 Cumberland St., Brunswick (3)  
 Dionne, William E., 75 Main St., Springvale (15)  
 Dixon, Walter G., 16 Deering St., Norway (9)  
 Doble, Eugene H., 6 Church St., Presque Isle (2)  
 Doble, Miriam, 990 Washington St., Bath (8)  
 Dolan, Thomas F., Jr., 50 Union St., Ellsworth (5)  
 Donahue, Clement L., 18 Sweden St., Caribou (2)  
 Donahue, Gerald H., 4 Station St., Presque Isle (2)  
 Donovan, Joseph A., 83 Cushing Ave., Belmont, Mass. (2)  
 Dooley, Francis M., 53 Deering St., Portland (3)  
 Dore, Clarence E., 2 School St., Waterville (6)  
 Dore, Kenneth E., 133 Main St., Fryeburg (3)  
 Dorogi, Louis V., 149 Main St., Freeport (3)  
 Dougherty, John F., 112 Front St., Bath (8)  
 Doupinett, Otis J., 763 Congress St., Portland (3)  
 Downing, J. Robert, 35 Summer St., Kennebunk (15)

Drake, Emerson H., 18 Bramhall St., Portland (3)  
 Drummond, S. Dunton, Bar Mills (15)  
 Duffey, Richard V., 187 North Main St., Brewer (10)  
 Duffy, Wallace H., 100 Main St., Farmington (4)  
 DuMais, Alcid F., 1832 N.W. 11th Rd., Gainesville, Fla. (1)  
 Dunham, Carl E., 188 State St., Portland (3)  
 Dunham, Marguerite C., Northern Maine Sanatorium, Presque Isle (2)  
 Dunham, Rand A., P.O. Box 68, East Millinocket (10)  
 Dunn, Robert H., Veterans Administration, Togus (6)  
 Dwyer, Clement S., 205 French St., Bangor (10)  
 Dycio, George, 55 Broad St., Auburn (1)  
 Dycio, Mary T., 30 Hall St., Lewiston (1)  
 Dyhrberg, Norman E., 323 Main St., Cumberland Mills (3)

## E

Earle, Ralph P., Vinalhaven (7)  
 Earnhardt, Joseph B., 55 Stroudwater St., Westbrook (3)  
 Eastman, Charles W., 15 Millet St., Livermore Falls (4)  
 Ebbett, Penry L. B., Houlton (2)  
 Eddy, Robert H., 23A Summer St., Rockland (7)  
 Elsmore, Dexter E., 11 Main St., Dixfield (9)  
 Emanuel, Meyer, Veterans Administration, Togus (6)  
 Emerson, W. Merritt, 131 State St., Bangor (10)  
 Emery, Frederick C., 242 Cedar St., Bangor (10)  
 Endicott, Ruth E., 16 Main St., Ogunquit (15)  
 English, Lena M., Veterans Administration, Togus (6)  
 Eppinger, Ernst, 52 Belmont St., Portland (3)  
 Ervin, Edmund N., 2 School St., Waterville (6)  
 Etscovitz, Eli A., Cary Memorial Hospital, Caribou (2)  
 Eves, John H., 106 E. State St., Doylestown, Pa. (6)

## F

Fagone, Francis A., 312 Congress St., Portland (3)  
 Fahey, William J., 17 Frye St., Lewiston (1)  
 Fallon, Richard N., 21 Western Ave., Augusta (6)  
 Faucher, Francois J., Grand Isle (2)  
 Feeley, J. Robert, 316 State St., Bangor (10)  
 Fergus, Andrew, 128 Broadway, Bangor (10)  
 Ferguson, Barbara, 80 Goff St., Auburn (1)  
 Ferguson, Franklin F., 22 Bramhall St., Portland (3)  
 Fichtner, Paul A., 6 Pleasant St., Rangeley (4)  
 Ficker, Robert F., Maine St., Kennebunkport (15)  
 Finks, Henry B., 73 Deering St., Portland (3)  
 Fiorica, Gaetano, T., 12 Church St., Chisholm (4)  
 Fish, Nicholas, 235 State St., Portland (3)  
 Fisher, Dean H., State House, Augusta (6)  
 Fisher, Samson, 173 Main St., Waterville (6)  
 Fishman, Louis N., 327 Main St., Lewiston (1)  
 Flanders, Merton N., 1 High St., Lewiston (1)  
 Floyd, Paul E., 2 Middle St., Farmington (4)  
 Fogg, C. Eugene, 35 Deering St., Portland (3)  
 Fogg, Philip S., Jr., 27 Deering St., Portland (3)  
 Fortier, Andre P., 68 Foss St., Biddeford (15)  
 Fortier, Paul J. B., 70 Pine St., Lewiston (1)  
 Foster, Albert D., Bay Shore Drive, Falmouth Foreside (3)  
 Foster, Thomas A., 131 State St., Portland (3)  
 Fox, Francis H., 83 West St., Portland (3)  
 Freeman, William E., 107 Main St., Yarmouth (3)  
 French, Rowland B., 16 Water St., Eastport (14)  
 Frenette, Francis F., 26 Main St., Washburn (2)  
 Frigault, Emile J., Main St., Eagle Lake (2)  
 Frost, Harold M., Friendship (7)  
 Frost, Robert A., 93 Summer St., Auburn (1)  
 Fuller, Barbara L., 20 Chestnut St., Rockland (7)

## G

Gaillard, Richard A., 276 State St., Bangor (10)  
 Gates, Clifford W., Flagg Meadow Rd., Gorham (3)  
 Gauvreau, Horace L., 82 Pine St., Lewiston (1)  
 Geer, Charles R., 690 Congress St., Portland (3)  
 Geer, George I., Jr., 690 Congress St., Portland (3)  
 Getchell, Ralph A., 690 Congress St., Portland (3)  
 Geyerhahn, George, 73 Deering St., Portland (3)  
 Gibbons, John F., 22 Bramhall St., Portland (3)  
 Giberson, Raymond G., 555 Main St., Presque Isle (2)  
 Giddings, Paul D., 31 Western Ave., Augusta (6)  
 Giesen, Joseph H., 34 Gilman St., Waterville (6)



Giguere, Eustache N., 90 Webster St., Lewiston (1)  
 Gilman, Herbert C., 240 Penobscot Ave., Millinocket (10)  
 Gingras, Adolphe J., 99 Water St., Augusta (6)  
 Gingras, Napoleon J., 6 East Chestnut St., Augusta (6)  
 Glassmire, Charles R., 58 Deering St., Portland (3)  
 Gloor, Robert F., Box 247, Agana, Guam, M. I. (10)  
 Goduti, Richard J., 9 Deering St., Portland (3)  
 Goldman, Morris E., 524 Main St., Lewiston (1)  
 Good, Philip G., 38 Deering St., Portland (3)  
 Goodof, Irving L., Thayer Hospital, Waterville (6)  
 Goodrich, Blynn O., 165 Main St., Waterville (6)  
 Goodwin, Ralph A., 56 Denison St., Auburn (1)  
 Goodwin, Ralph A., Jr., 33 Court St., Auburn (1)  
 Gormley, Eugene G., Market Square, Houlton (2)  
 Gould, George I., 79 Main St., Richmond (6)  
 Graves, Robert A., Sunset Drive, Orono (2)  
 Gray, Philip L., Blue Hill (5)  
 Greco, Edward A., 12 Pine St., Portland (3)  
 Green, Ross W., 33 Court St., Auburn (1)  
 Greene, John A., 96 Congress St., Rumford (9)  
 Greene, John P., 19 Sabattus St., Lewiston (1)  
 Greene, Merrill S. F., 466 Main St., Lewiston (1)  
 Greenlaw, William A., 129 Main St., Fairfield (12)  
 Gregory, Frederick J., 16 High St., Caribou (2)  
 Gregory, Philip O., St. Andrews Hospital, Boothbay Harbor (8)  
 Griffiths, Eugene B., 429 Main St., Presque Isle (2)  
 Grish, Albert J., 18 Hartford St., Rumford (9)  
 Grow, William B., Central Maine Sanatorium, Fairfield (12)  
 Guillemette, Maurice R., 109 Water St., Augusta (6)  
 Guite, L. Armand, 45 Elm St., Waterville (6)

## H

Haas, Carl M., 357 Elm St., Biddeford (15)  
 Haas, Rudolph, 488 Main St., Lewiston (1)  
 Hall, Walter D., 407 Main St., Rockland (7)  
 Hall, Walter L. H., 130 Middle St., Old Town (10)  
 Hallett, George W., Jr., 131 State St., Portland (3)  
 Hamel, John R., 50 Deering St., Portland (3)  
 Hamilton, Virginia C., 900 Washington St., Bath (8)  
 Hamlin, Irvin E., Main St., East Millinocket (10)  
 Hanley, Daniel F., 58 Federal St., Brunswick (3)  
 Hannigan, Charles A., 85 Goff St., Auburn (1)  
 Hannigan, Margaret H., 85 Goff St., Auburn (1)  
 Hanson, Henry W., Jr., Cumberland Center (3)  
 Harkins, Michael J., 437 Main St., Lewiston (1)  
 Harlow, Edwin W., 177 Main St., Waterville (6)  
 Harper, Harry L., 17 Main St., South Paris (9)  
 Harrison, George J., Market Sq., Houlton (2)  
 Harvey, Thomas G., 46 So. Main St., Caribou (2)  
 Hawkes, Richard S., 47 Deering St., Portland (3)  
 Hawkins, Donald B., Atlantic Ave. and Sea St., Camden (7)  
 Hayward, I. Mead, So. Main St., Caribou (2)  
 Head, Owen B., 98 Main St., Sanford (15)  
 Heath, Parker, Jr., 22 White St., Rockland (7)  
 Hecht, Henry, 326 Stevens Ave., Portland (3)  
 Hedin, Carl J., Penobscot Terrace, Brewer (10)  
 Heifetz, Ralph, 173 State St., Portland (3)  
 Helfrich, Harry M., Jr., 555 Main St., Presque Isle (2)  
 Helfrich, Nancy R., 555 Main St., Presque Isle (2)  
 Herbert, Walter W., Eastern Memorial Hospital, Ellsworth (5)  
 Herrick, Stanley E., Jr., 12 Deering St., Portland (3)  
 Herring, Leon D., 1 Western Ave., Winthrop (6)  
 Herson, Joseph H., 334 E. 25th St., New York, N. Y. (2)  
 Hiebert, Joelle C., Jr., 369 Main St., Lewiston (1)  
 Higgins, Everett C., 149 College St., Lewiston (1)  
 Higgins, George F., 122 Academy St., Presque Isle (2)  
 Higgins, George I., 15 Water St., Newport (10)  
 Hill, Allison K., 113 Somerset St., Bangor (10)  
 Hill, Douglas R., 855 Sawyer St., South Portland (3)  
 Hill, Frederick T., Thayer Hospital, Waterville (6)  
 Hill, Howard F., 33 College Ave., Waterville (6)  
 Hill, Paul S., Jr., 323 Main St., Saco (15)  
 Hinckley, Harris, 331 Cottage Rd., South Portland (3)  
 Hirschberger, Celia, 44 Main St., Waterville (6)  
 Hirshler, Max, 25 Bardwell St., Lewiston (1)  
 Hochschild, Hugo, 33 Main St., Thomaston (7)  
 Hoffman, Alvin A., P. O. Box 222, York (15)  
 Hogan, Chester F., 62 Main St., Houlton (2)

Holt, C. Lawrence, 27 Deering St., Portland (3)  
 Hopkins, Herbert J., 24 Portland Ave., Old Orchard (15)  
 Hopping, John S., R. D. No. 2, Union (7)  
 Hornberger, H. Richard, 2 School St., Waterville (6)  
 Hornstein, Louis S., 220 Water St., Skowhegan (12)  
 Horsman, Donald H., 50 Goff St., Auburn (1)  
 Houle, Marcel P., 200 Alfred St., Biddeford (15)  
 Houlihan, John S., 209 State St., Bangor (10)  
 Howard, George C., Oak St., Guilford (11)  
 Howard, Henry M., 105 Franklin St., Rumford (9)  
 Hsu, Theodore S., 14 High St., Ellsworth (5)  
 Hubbard, Roswell E., Waterford (9)  
 Hudson, Henry A., 11 Gage St., Bridgton (3)  
 Hughes, Edward J., 255 No. Main St., Brewer (10)  
 Humphreys, Ernest D., 91 Main St., Pittsfield (12)  
 Huntress, Roderick L., 988 Sawyer St., South Portland (3)  
 Hurd, Allan C., 72 Church St., Gardiner (6)  
 Hutchins, Deane L., 69 Townsend Ave., Boothbay Harbor (8)

## I

Irwin, Carl W., 262 State St., Bangor (10)  
 Ives, Howard R., 31 Deering St., Portland (3)

## J

Jackler, Jacob M., 14 Gilman St., Waterville (6)  
 Jackson, Norman M., 89 Congress St., Rumford (9)  
 Jacob, Donald R., Princeton (14)  
 Jacobson, Payson B., 295 Brighton Ave., Portland (3)  
 James, Chakmakis, 47 Howe St., Lewiston (1)  
 James, John A., 117 Goff St., Auburn (1)  
 Jameson, C. Harold, Medical Arts Building, Rockland (7)  
 Jellerson, Leon R., 34 Winter St., Sanford (15)  
 Jennings, Richard K., American Embassy, Belgrade, Yugoslavia, c/o Dept. of State, Washington 25, D.C. (5)  
 Johnson, Albert C., 45 Deering St., Portland (3)  
 Johnson, Gordon N., P. O. Box 86, Houlton (2)  
 Johnson, Henry P., 32 Deering St., Portland (3)  
 Johnson, James H., Jr., 36 Elm St., Milo (11)  
 Johnson, Oscar R., 18 Deering St., Portland (3)  
 Johnson, R. Paul, Main St., Fort Kent (2)  
 Johnston, James S., York Harbor (15)  
 Jones, Paul A., Union (7)  
 Joost, Arthur M., Jr., P. O. Box B, Bucksport (5)  
 Jordan, W. Edward, Jr., 68 Water St., Skowhegan (12)

## K

Kadi, Francis J., Bangor State Hospital, Bangor (10)  
 Kagan, Samuel H., 283 Water St., Augusta (6)  
 Kay, Edwin, 31 Frye St., Lewiston (9)  
 Kazutow, John, P. O. Box 24, Ellsworth (14)  
 Kellogg, Robert O., 316 State St., Bangor (10)  
 Kemezis, Kestutis M., 25 Garfield St., Madison (12)  
 Kershner, Warren E., 57 Green St., Bath (8)  
 Kibbe, Frank W., 22 White St., Rockland (7)  
 Kiel, Joseph B., Columbia Falls (14)  
 Kimball, Herrick C., P. O. Box 372, Fort Fairfield (2)  
 Kinder, Edward L., Jr., 1027 Washington St., Bath (8)  
 King, Merrill J., 22 White St., Rockland (7)  
 King, Merrill J., Jr., 22 White St., Rockland (7)  
 Kinghorn, Charles W., 4 Wentworth St., Kittery (15)  
 Kirk, William V., Eagle Lake (2)  
 Knickerbocker, Charles H., 15 High St., Bar Harbor (5)  
 Knowles, Robert M., 49 Deering St., Portland (3)  
 Knowlton, Henry C., 245 Center St., Bangor (10)  
 Konecki, John T., St. Mary's Hospital, Lewiston (1)  
 Kopfmann, Harry, Deer Isle (5)  
 Kramer, Henry F., Caribou Clinic, Caribou (2)

## L

Labbe, Onil B., Van Buren (2)  
 LaFlamme, Paul J., 106 Russell St., Lewiston (1)  
 LaFond, Robert S., 258 Main St., Saco (15)  
 Lane, Russell M., Water St., Blue Hill (5)  
 Laney, Richard P., 50 Water St., Skowhegan (12)  
 Langer, Ella, State House, Augusta (6)

Lanni, John P., Hitchcock Clinic, Hanover, N. H. (9)  
 Lape, C. Philip, 131 Chadwick St., Portland (3)  
 Lapirow, Harry, 99 Main St., Kennebunk (15)  
 Lappin, John J., 171 State St., Portland (3)  
 Larochelle, Joseph R., 42 Bacon St., Biddeford (15)  
 Larrabee, Charles F., 48 Mt. Desert St., Bar Harbor (5)  
 Larson, Karl V., East Machias (14)  
 Laughlin, K. Alexander, 201 State St., Portland (3)  
 Lawry, Oram R., Jr., 96 Limerock St., Rockland (7)  
 Leary, Gerald C., 144 State St., Portland (3)  
 Leddy, Percy A., Dir., Student Health Dept., University of  
 Maine, Orono (10)  
 Lee, Kong, 105 Center St., Old Town (10)  
 Leigh, Kenneth E., Brixham Rd., York (15)  
 Leighton, Wilbur F., 192 State St., Portland (3)  
 Leiter, Laban W., 175 Vaughan St., Portland (3)  
 Lemaitre, Paul G., 268 Webster St., Lewiston (1)  
 Lenfest, Stanley R., Waldoboro (8)  
 Lepore, Anthony E., 72 Church St., Gardiner (6)  
 Lesieur, Louis C., 66 Beach St., Saco (15)  
 Levesque, Romeo J., Frenchville (2)  
 Libby, Harold E., 310 Main St., Westbrook (3)  
 Lidstone, Frederick B., 117 Goff St., Auburn (1)  
 Lieberman, Arthur N., 180 Broadway, Bangor (10)  
 Lightbody, Charles H., No. Main St., Guilford (11)  
 Lincoln, John R., 22 Bramhall St., Portland (3)  
 Lincourt, Armand S., 122 Main St., Sanford (15)  
 Loewenstein, George, Chebeague Island (7)  
 Winter Address — Aripeka, Florida  
 Logan, G. E. C., 131 State St., Portland (3)  
 Lombard, Reginald T., 793 Main St., South Portland (3)  
 Lord, Edwin M., 39 High St., Skowhegan (12)  
 Lord, Maurice E., Dees Cabins, Lake Placid, Florida (12)  
 Love, Robert B., 75 Main St., Gorham (3)  
 Lovely, David K., 46 Deering St., Portland (3)  
 Luther, William C., West Sullivan (5)  
 Lynn, Geraldine, 188 Russell St., Lewiston (1)

## M

MacBride, Robert G., 25 Washington St., Lubec (14)  
 Macdonald, Donald F., 263 State St., Bangor (10)  
 MacDougall, Wilbur E., 186 Nowell Rd., Bangor (11)  
 MacDougall, James A., 303 Penobscot St., Rumford (9)  
 Mack, Francis X., 144 State St., Portland (3)  
 MacVane, William L., Jr., 211 State St., Portland (3)  
 Madigan, John B., Houlton (2)  
 Magaudda, Michael M. P., 39 Old Orchard St., Old Orchard  
 Beach (15)  
 Magocsi, Alexander W., York (15)  
 Mahaney, William F., 338 Main St., Saco (15)  
 Maier, Paul, 723 Congress St., Portland (3)  
 Maltby, George L., 31 Bramhall St., Portland (3)  
 Mann, David V., 22 White St., Rockland (7)  
 Manol, Jack, 157 Pine St., Portland (3)  
 Manter, Wilbur B., 1 Fern St., Bangor (10)  
 Marquardt, Matthias, P.O. Box 724, State Hospital, Augusta  
 (6)  
 Marshall, Donald F., 142 High St., Portland (3)  
 Marshall, Joseph A., 177 Main St., Waterville (6)  
 Marsters, David W., Phillips (4)  
 Marston, Henry E., North Anson (12)  
 Marston, Paul C., Kezar Falls (3)  
 Martel, Cyprien L., Jr., 355 Pine St., Lewiston (1)  
 Martin, Joseph E., 23 Water St., Livermore Falls (4)  
 Martin, Ralf, 131 Chadwick St., Portland (3)  
 Martin, Thomas A., 157 Pine St., Portland (3)  
 Mason, Luther S., 109 State St., Bangor (10)  
 Mason, Peter H., Millinocket Community Hospital, Millin-  
 ocket (10)  
 Mathews, Hugh J., Jr., 345 Water St., Gardiner (6)  
 Matthews, Edward C., 131 Chadwick St., Portland (3)  
 Matuzel, Jane A., 3830 Haven St., Pittsburgh 4, Pennsylvania  
 (1)  
 Mautner, Hans V., Route 88, Yarmouth (3)  
 Mazzacane, Walter D., Old Orchard (15)  
 Mazzone, Giovanni, 487 Stevens Ave., Portland (3)  
 Melendy, Oakley A., 21 Western Ave., Augusta (6)  
 Melkis, Andrew, Box C, Pownal (3)  
 Melnick, Jacob, 333 Congress St., Portland (3)  
 Memmelaar, Joseph E., 54 Forest Ave., Bangor (10)

Merrill, Urban H., 13 Water St., Newport (10)  
 Methot, Frank P., 256 Lisbon St., Lewiston (1)  
 Michaud, Joseph C., 76 Main St., Waterville (6)  
 Miller, Clark F., 46 Madison St., Auburn (1)  
 Miller, George W., Norway National Bank Building, Norway  
 (9)  
 Miller, Hudson R., 11 Turner St., Auburn (1)  
 Miller, Thor, 752 Main St., Westbrook (3)  
 Milliken, Howard H., 105 Second St., Hallowell (6)  
 Millington, Paul A., 44 Mountain St., Camden (7)  
 Mills, Nathaniel, Harrison (9)  
 Miragliuolo, Leonard G., 10 Maple St., Bangor (10)  
 Mitchell, Hazen C., Calais (14)  
 Monaghan, Stephen E., 157 Pine St., Portland (3)  
 Monkhouse, William A., 131 State St., Portland (3)  
 Moore, Beryl M., Oxford (9)  
 Moore, Roland B., 17 Clifton Rd., Falmouth (3)  
 Moore, Valentine J., Thayer Hospital, Waterville (6)  
 Morin, Gerard L., 460 Main St., Lewiston (1)  
 Morin, Harry F., 905 Middle St., Bath (8)  
 Morissette, Russell A., 460 Main St., Lewiston (1)  
 Morrell, Arch H., 67 Sewall St., Augusta (6)  
 Morris, Craig W., 50 Bangor St., Augusta (6)  
 Morrison, Alvin A., 57 Deering St., Portland (3)  
 Morrison, James B., Main St., Ashland (2)  
 Morse, Edward K., 22 White St., Rockland (7)  
 Moulton, Albert W., 180 State St., Portland (3)  
 Moulton, Albert W., Jr., 180 State St., Portland (3)  
 Moulton, Gardner N., 5 Grove St., Bangor (10)  
 Moulton, Marion A. K., West Newfield (15)  
 Munce, Richard T., 262 State St., Bangor (10)  
 Mundie, Perley J., 32 North St., Calais (14)  
 Murphy, John J., 84 Portland St., South Berwick (15)  
 Murphy, Norman B., 31 Western Ave., Augusta (6)  
 Myer, John C., Nasson College, Springvale (15)

## Mc

McAdams, William R., 723 Congress St., Portland (3)  
 McCann, Eugene C., 49 Deering St., Portland (3)  
 McCormack, Roland L., 12 Bridge St., Norway (9)  
 McCrum, Philip H., 188 State St., Portland (3)  
 McEvoy, Charles D., Jr., 316 State St., Bangor (10)  
 McFarland, Edward A., 159 Maine St., Brunswick (3)  
 McIntire, Barron F., Jr., 13 W. Elm St., Yarmouth (3)  
 McKay, Roland L., 57 Eastern Ave., Augusta (6)  
 McLaughlin, Clarence R., 345 Water St., Gardiner (6)  
 McLaughlin, Ivan E., 345 Water St., Gardiner (6)  
 McLean, E. Allan, 29 Deering St., Portland (3)  
 McLellan, William A., 87 Chestnut St., Camden (7)  
 McManamy, Eugene P., 209 State St., Portland (3)  
 McMichael, Morton, 73 Deering St., Portland (3)  
 McNamara, Wesley C., 8 Lee St., Lincoln (10)  
 McNeil, Harry D., 81 Silver Rd., Bangor (10)  
 McQuillan, Arthur H., 177 Main St., Waterville (6)  
 McQuoid, Robert M., 39 Columbia St., Bangor (10)  
 McWethy, Wilson H., 31 Western Ave., Augusta (6)

## N

Nackley, George N., 1 School St., Machias (14)  
 Nadeau, J. Paul, 91 Pine St., Lewiston (1)  
 Nadeau, Lawrence A., Vet. Adm. Hosp., So. Huntington Ave.,  
 Jamaica Plains, Mass. (1)  
 Nangle, Thomas P., West Paris (9)  
 Nelson, Chesley W., 121 Main St., Norway (9)  
 Nelson, Isaac, Box 336, Greenville (11)  
 Nesin, Bourcard, 10 Water St., Howland (10)  
 Newcomb, Charles H., Clinton (6)  
 Nichols, Arthur A., Edgecomb (8)  
 Nickerson, Norman H., Greenville (11)  
 Nielsen, Odd S., 85 Pleasant St., Dexter (11)

## O

O'Connell, George B., 11 Lisbon St., Lewiston (1)  
 O'Connor, Francis J., 4 Woodlawn St., Augusta (6)  
 O'Donnell, Eugene E., 32 Deering St., Portland (3)  
 Oestrich, Alfred, 89 Congress St., Rumford (9)  
 Ohler, Robert L., Veterans Administration, Togus (6)



O'Kane, Francis R., 122 Fenobscot Ave., Millinocket (10)  
 Olmsted, Burton L., 73 Deering St., Portland (3)  
 O'Meara, Edward S., Eastern Memorial Hospital, Ellsworth (5)  
 Onat, Mustafa V., Main St., Port Clyde (7)  
 Orbeton, Everett A., 131 Chadwick St., Portland (3)  
 Osborne, John R., Veterans Administration, Togus (2)  
 Osher, Harold L., 131 Chadwick St., Portland (3)  
 Osler, Jay K., 74 Birch St., Bangor (10)  
 O'Sullivan, William B., 331 Main St., Saco (15)  
 Ottum, Alvin E., 148 State St., Portland (3)  
 Ouellette, Marcel D., 114 Main St., Sanford (15)

## P

Page, Rosario A., 20 Sweden St., Caribou (2)  
 Palmer, Thomas H., Jr., 316 State St., Bangor (10)  
 Parcher, George, 75 Main St., Ellsworth (5)  
 Parrot, Hadley, 74 Somerset St., Bangor (10)  
 Patane, Joseph M., 256 Alfred St., Biddeford (15)  
 Patterson, James, 1 Bay Rd., South Portland (3)  
 Patton, Charles H., Jr., 11 McKen St., Brunswick (3)  
 Pawle, Robert H., Steep Falls (3)  
 Pearson, Henry, Brownfield (9)  
 Pearson, John J., 100 So. Main St., Old Town (10)  
 Pennoyer, Douglass C., 112 Vaughan St., Portland (3)  
 Penta, Walter E., 316 Woodford St., Portland (3)  
 Perkins, Niles L., Jr., Oxford Paper Co., Rumford (9)  
 Perrault, Oscar W., 30 South St., Biddeford (15)  
 Peterlein, Walter R., 75 Main St., Springvale (15)  
 Petterson, Herman C., Chebeague Island (3)  
 Pfeiffer, Paul H., 14 Gilman St., Waterville (6)  
 Philbrick, Maurice S., 292 Water St., Skowhegan (12)  
 Philpot, Van B., Jr., Cary Memorial Hospital, Caribou (2)  
 Pines, Philip, Maine St., Limestone (2)  
 Platt, Anna, Beauchamp Rd., Rockport (7)  
 Winter Address—110 Manatee Rd., Belleair, Clearwater, Fla.  
 Plimpton, Jay R., 283 Water St., Augusta (6)  
 Pogue, Jackson S., 529 Gilmore Ave., Trafford, Pa. (3)  
 Poliner, Irving J., 235 State St., Portland (3)  
 Polisner, Saul R., 143 Vaughan St., Portland (3)  
 Pomerleau, Ovid F., 179 Main St., Waterville (6)  
 Pomerleau, Rodolphe J. F., 27 Main St., Waterville (6)  
 Pooler, Harold A., State Hospital, Bangor (10)  
 Porter, Edward C., 489 State St., Bangor (10)  
 Porter, Joseph E., 22 Bramhall St., Portland (3)  
 Potts, Ronald S., Central Maine General Hospital, Lewiston (1)  
 Poulin, Albert A., Cherry Hill Dr., Waterville (6)  
 Poulin, James E., 177 Main St., Waterville (6)  
 Powell, Ralph C., Damariscotta (8)  
 Pratt, George L., 7 Main St., Farmington (4)  
 Pratt, Harold S., Livermore Falls (1)  
 Pratt, Loring W., 177 Main St., Waterville (6)  
 Price, Richard D., E. Presque Isle Rd., Caribou (2)  
 Priest, Maurice A., 108 Stone St., Deland, Fla. (6)  
 Pritham, Fred J., Greenville Junction (11)  
 Proctor, Ray A., Garden Circle, Caribou (2)  
 Proctor, Thomas E., Boothbay Harbor (8)  
 Proulx, Harvey J., 92 Pine St., Lewiston (1)  
 Provost, Helen C., 48 Green St., Augusta (6)  
 Provost, Pierre E., 48 Green St., Augusta (6)  
 Purinton, Watson S., 15 Ohio St., Bangor (10)  
 Purinton, William A., 15 Ohio St., Bangor (10)

## R

Rand, Carleton H., 219 Oak St., Lewiston (1)  
 Ray, Ferris S., 131 Chadwick St., Portland (3)  
 Read, Seth H., 15 Church St., Belfast (13)  
 Reed, Howard L., 68 Water St., Skowhegan (12)  
 Reed, James W., 18 Main St., Farmington (4)  
 Reeves, Edward L., 179 Sabattus St., Lewiston (1)  
 Reeves, Helene M., 179 Sabattus St., Lewiston (1)  
 Renwick, Ward J., 102 Golf St., Auburn  
 Winter Address—Colonial Hotel, St. Petersburg, Fla. (1)  
 Reynolds, Arthur P., 29 Second St., Presque Isle (2)  
 Reynolds, John F., 216 Main St., Waterville (6)  
 Reynolds, Ralph L., 216 Main St., Waterville (6)  
 Rice, William C., Main St., Calais (14)  
 Richards, Carl E., 34 Winter St., Sanford (15)

Richards, Lee W., Jr., 21 Western Ave., Augusta (6)  
 Richardson, C. Earle, 3 Cumberland St., Brunswick (3)  
 Rideout, Samuel, 3 Green St., Fort Fairfield (2)  
 Ridlon, Magnus F., 99 Broadway, Bangor (10)  
 Risley, Edward H., P.O. Box 143, Prides Crossing, Mass. (6)  
 Robert, Roger J. P., 331 Main St., Saco (15)  
 Robertson, George J., 33 College Ave., Waterville (6)  
 Robinson, Carl M., Waites Landing, R. 99, Portland (3)  
 Robinson, Hugh P., 29 Deering St., Portland (3)  
 Rock, Daniel A., 477 Main St., Lewiston (1)  
 Root, John A., 22 White St., Rockland (7)  
 Ross, H. Danforth, 34 Winter St., Sanford (15)  
 Ross, Maurice, 372 Main St., Saco (15)  
 Roussin, William T., 48 Bacon St., Biddeford (15)  
 Rowe, Daniel M., Kirkwood Rd., Scarborough Beach (3)  
 Rowe, Gunther H., 42 Main St., Livermore Falls (4)  
 Rowe, Linwood M., 11 Franklin St., Rumford (9)  
 Royal, Albert P., Jr., 82 Maine Ave., Rumford (9)  
 Ruhlin, Carl W., 205 French St., Bangor (10)  
 Runyon, William N., 283 Water St., Augusta (6)  
 Russell, Daniel F. D., Leeds (1)  
 Russell, Robert F., Penobscot (5)

## S

Sager, George F., 18 Bramhall St., Portland (3)  
 Sanders, Stephen W., 120 Main St., Winthrop (6)  
 Santoro, Domenico A., 43 Deering St., Portland (3)  
 Sapiro, Howard M., 171 State St., Portland (3)  
 Saunders, Allen I., Ferry Rd., R.F.D. No. 2, Augusta (6)  
 Savage, Richard L., 4 Elm St., Fort Kent (2)  
 Sawyer, Howard P., Jr., 22 Bramhall St., Portland (3)  
 Schmidt, Lorriner M., Veterans Administration, Togus (6)  
 Schwartz, Carol, 3 Deering St., Portland (3)  
 Scolten, Adrian H., 32 Deering St., Portland (3)  
 Scribner, Herbert C., 29 Summit Ave., Wakefield, Mass. (10)  
 Sears, Harold G., Second Ave., Woodland (14)  
 Seligman, Morris J., Veterans Administration, Togus (6)  
 Selvage, Irving L., Jr., 22 Bramhall St., Portland (3)  
 Sever, James W., Cape Neddick (15)  
 Sewall, Elmer M., 14 Park St., Orono (10)  
 Sewall, Kenneth W., 2 School St., Waterville (6)  
 Shannon, Charles E. G., 9 Park St., Waterville (6)  
 Shapero, Benjamin L., 142 Pine St., Bangor (10)  
 Shapiro, Morrill, 29 Deering St., Portland (3)  
 Shelton, M. Tieche, 21 Western Ave., Augusta (6)  
 Shems, Albert, 487 Main St., Lewiston (1)  
 Shields, Daniel R., 369 Main St., Lewiston (1)  
 Shippee, James N., 122 Main St., Winthrop (6)  
 Shubert, Alice J., 317 State St., Bangor (10)  
 Shubert, William M., 317 State St., Bangor (10)  
 Shurman, Hans, 10 Spring St., Dexter (10)  
 Sidwell-Thompson, Doris M., Box C, Pownal (3)  
 Simpson, Margaret R., Box 275, Togus (6)  
 Skillin, Charles E., 690 Congress St., Portland (3)  
 Skillin, Frederick W., 69 So. High St., Bridgton (3)  
 Sleeper, Francis H., P.O. Box 724, State Hospital, Augusta (6)  
 Small, Foster C., 169 High St., Belfast (13)  
 Smith, Carroll H., Box 967, Presque Isle (2)  
 Smith, Edgar J., 1 Park St., Fairfield (12)  
 Smith, Gerald R., Ogunquit (15)  
 Smith, Henry F., Jackman Station (12)  
 Smith, Hugh A., Eastern Maine General Hospital, Bangor (10)  
 Smith, Jacob, 118 Front St., Bath (8)  
 Smith, Joseph I., 118 Front St., Bath (8)  
 Smith, Kenneth E., Veterans Administration, Togus (6)  
 Smith, Margaret S., Box 967, Presque Isle (2)  
 Smith, Oney P., Post Rd., Wells (15)  
 Somerville, Robert B., 473 Main St., Presque Isle (2)  
 Somerville, Wallace B., Mars Hill (2)  
 Sommerfeld, Kurt A., 5 Brunswick Ave., Gardiner (6)  
 Soule, Gilmore W., 22 White St., Rockland (7)  
 Southern, Edward M., 34 Gilman St., Waterville (6)  
 Southworth, John D., 49 Washington St., Calais (14)  
 Sowles, Horace K., 413 Blackstrap Rd., Falmouth (3)  
 Spear, William, 107 Main St., Lisbon Falls (1)  
 Spellman, Francis A., Veterans Administration, Togus (6)  
 Spencer, Jack, 31 Deering St., Portland (3)  
 Stanhope, Charles N., Dover-Foxcroft (11)  
 Stanwood, Harold W., York (9)

Stebbins, Arthur P., 131 State St., Portland (3)  
 Steele, Charles W., 472 Main St., Lewiston (1)  
 Stein, Ernest W., 72 Main St., Pittsfield (13)  
 Stephenson, Richard B., 131 State St., Portland (3)  
 Sterlin, Andre, 10 High St., Fort Kent (2)  
 Stetson, Rufus E., Damariscotta (8)  
 Stevens, Carl H., 18 Franklin St., Belfast (13)  
 Stevens, Theodore M., 148 State St., Portland (3)  
 Stewart, Delbert M., 15 Main St., South Paris (9)  
 Stickney, Laura B., 10 Cutts Ave., Saco (15)  
 Stinchfield, Allan J., 16 E. Chestnut St., Augusta (6)  
 Stitham, Linus J., 50 Main St., Dover-Foxcroft (11)  
 Storer, Daniel P., 12 Deering St., Portland (3)  
 Striar, Ronald R., 94 Essex St., Bangor (10)  
 Strickland, Marian L., Easy St., Canaan (12)  
 Strout, Warren G., 205 French St., Bangor (10)  
 Stuart, Ralph C., Guilford (11)  
 Sturtevant, Vaughn R., 33 College Ave., Waterville (6)  
 Sullivan, George E., R. F. D. 1, Fairfield (12)  
 Sullivan, John R., 340 North Main St., Brewer (10)  
 Suyama, Eji, 58 W. Main St., Ellsworth (5)  
 Sweatt, Linwood A., 48 Drummond St., Auburn (1)  
 Swett, Alfred E., 308 Minot Ave., Auburn (1)  
 Swett, Clyde I., 18 Sherman St., Island Falls (2)  
 Sylvester, Stanley B., 1377 Washington Ave., Portland (3)  
 Szelenyi, Ernest, Central Maine Sanatorium, Fairfield (12)  
 Szendey, Andrew M., 26 Gray St., Madison (12)

## T

Tabachnick, Henry M., 110 Park Ave., Portland (3)  
 Tashiro, Sabro, 181 Highland Ave., Gardiner (6)  
 Taylor, H. Lewis, 25 Church St., Dexter (10)  
 Taylor, Paul E., 9 Wentworth St., Kittery (15)  
 Taylor, William F., Providence Ave., Falmouth Foreside,  
 R. 99, Portland (3)  
 Tchao, Jou S., 82 Pine St., Lewiston (1)  
 Telfeian, Alphonse, 690 Congress St., Portland (3)  
 Temple, George L., Fahey St., Belfast (13)  
 Tetreau, William J., 144 Spring St., Portland (3)  
 Thacher, Henry C., 117 Goff St., Auburn (1)  
 Thaxter, Langdon T., Route 100, Portland (3)  
 Thegen, W. Edward, Elm St., Bucksport (5)  
 Thomas, Philip B., 205 French St., Bangor (10)  
 Thompson, Philip P., Jr., 704 Congress St., Portland (3)  
 Tibbetts, Otis B., 181 Gamage Ave., Auburn (1)  
 Timberlake, Ralph M., Jr., Central Maine General Hospital,  
 Lewiston (1)  
 Titherington, John B., 209 State St., Portland (3)  
 Todd, Albert C., 185 North Maine St., Brewer (10)  
 Torrey, Marcus A., 75 State St., Ellsworth (5)  
 Torrey, Raymond L., Main St., Searsport (13)  
 Tougas, Raymond A., 8 Cumberland St., Brunswick (3)  
 Tounge, Harry G., Jr., 12 Union St., Camden (7)  
 Tousignant, Camille, 111 Pine St., Lewiston (1)  
 Toussaint, Leonid G., P. O. Box 9, Fort Kent (2)  
 Towne, Charles E., 18 Common St., Waterville (6)  
 Tracy, Mary J., Bristol Rd., Damariscotta (8)  
 Trowbridge, Mason, Jr., 142 Pine St., Bangor (10)  
 Turcotte, Guy N., 38 Deering St., Portland (3)  
 Turgeon, Raphael F., 836 Main St., Westbrook (3)  
 Turnbull, Elliot D., 301 Allen Ave., Portland (3)  
 Turner, Harland G., R. F. D. 2, Norridgewock (12)  
 Twaddle, Gard W., 57 Goff St., Auburn (1)  
 Tze, Channam, MC 98 General Hospital, APO No. 34,  
 c/o P. M. New York, N. Y. (1)

## U

## V

Vachon, Robert D., 34 Winter St., Sanford (15)  
 Valentine, John B., 9 E. Main St., Dover-Foxcroft (11)

Van Duyn, John, 205 French St., Bangor (10)  
 Van Lonkhuyzen, Maurice, 31 Bramhall St., Portland (3)  
 Veilleux, Lucien F., 185 Grant St., Portland (6)  
 Ventimiglia, William A., 131 State St., Portland (3)  
 Vickers, Martyn A., 268 State St., Bangor (10)  
 Viger, Leopold A., 176 Elm St., Biddeford (15)  
 Vogell, Frederick C., So. Main St., Caribou (2)

## W

Wadsworth, Richard C., 489 State St., Bangor (10)  
 Wagner, Samuel L., 2 Holmes St., Winterport (10)  
 Wakefield, Robert D., Central Maine General Hospital,  
 Lewiston (1)  
 Walker, George R., 128 Broadway, Bangor (10)  
 Ward, John V., 131 State St., Portland (3)  
 Warren, H. D., Caribou Clinic, Caribou (2)  
 Wasgatt, Wesley N., 41 Talbot Ave., Rockland (7)  
 Waterman, Dorothy, Waldoboro (7)  
 Waterman, Richard, Waldoboro (7)  
 Weatherbee, George B., Main St., Hampden (10)  
 Weaver, Michael L., 36 Federal St., Brunswick (3)  
 Webber, Isaac M., 29 Deering St., Portland (3)  
 Webber, John R., Dark Harbor (13)  
 Webber, Samuel R., Calais (14)  
 Webber, Wallace E., 297 Main St., Lewiston (1)  
 Webber, Wedgwood P., 376 Main St., Lewiston (1)  
 Weeks, DeForest, 158 Pleasant Ave., Portland (3)  
 Weisz, Hans, 194 Main St., Lincoln (10)  
 Wellington, J. Foster, 655 Congress St., Portland (3)  
 Westermeyer, Marion W., 32 Federal St., Brunswick (3)  
 Weymouth, Currier C., 83 Main St., Farmington (4)  
 Weymouth, Raymond E., 194 Main St., Bar Harbor (5)  
 White, Leland M., So. Main St., Caribou (2)  
 White, William J., 1 Mitchell Rd., South Portland (3)  
 Whitney, Byron V., 280 State St., Bangor (10)  
 Whitney, Ray L., Cape Porpoise (15)  
 Whittier, Alice A. S., 143 Neal St., Portland (3)  
 Whitworth, John E., 116 Hammond St., Bangor (10)  
 Wight, Donald G., 30 Mitchell Rd., South Portland (3)  
 Wilbur, Herbert T., Jr., P. O. Box 175, Southwest Harbor (5)  
 Willard, Harold N., Thayer Hospital, Waterville (6)  
 Williams, Edward P., 72 Main St., Houlton (2)  
 Williams, James A., 40 Pleasant St., Mechanic Falls (1)  
 Williams, Ralph E., Main St., Freeport (3)  
 Williams, Thomas W., 50 Union St., Ellsworth (5)  
 Williamson, Elizabeth E., Blue Hill (5)  
 Williamson, Russell G., Blue Hill Memorial Hospital, Blue  
 Hill (5)  
 Wilson, G. Ivan, 40 Court St., Houlton (2)  
 Wilson, Harry M., 944 Middle St., Bath (8)  
 Wilson, Robert D., Arthur R. Gould Memorial Hospital,  
 Presque Isle (2)  
 Wilson, Robert W., Veterans Administration, Togus (6)  
 Winchenbach, Francis A., 910 Washington St., Bath (8)  
 Wolfahrt, Eugene P., 338 Main St., Saco (15)  
 Wood, George W., III, 156 North Main St., Brewer (10)  
 Woodcock, Allan, 35 Second St., Bangor (10)  
 Woodcock, John A., 35 Second St., Bangor (10)  
 Woodman, Arthur B., 15 Johnson Rd., Falmouth Foreside  
 (3)  
 Worthing, Verla E., P. O. Box A, Thomaston (7)  
 Wyman, David S., 47 Deering St., Portland (3)

## Y

Young, George E., 159 Water St., Skowhegan (12)  
 Young, John, Bethel (9)

## Z

Zanca, Ralph, 86 Pine St., Lewiston (1)  
 Zikel, Herbert M., High St., Wilton (4)  
 Zolov, Benjamin, 296 Congress St., Portland (3)



# Woman's Auxiliary to the Maine Medical Association

## ANDROSCOGGIN COUNTY

Andrews, Mrs. S. L. 35 White St., Lewiston  
 Archambault, Mrs. Philip L. 17 High St., Lewiston  
 Beaudet, Mrs. Simon C. 25 Webster St., Lewiston  
 Beeaker, Mrs. Vincent H. 85 Wood St., Lewiston  
 Beegel, Mrs. Paul M. 80 Goff St., Auburn  
 Beliveau, Mrs. Bertrand A. 56 Howe St., Lewiston  
 Beliveau, Mrs. Romeo A. 89 Pine St., Lewiston  
 Bernard, Mrs. Romeo A. 26 Beacon St., Lewiston  
 Branch, Mrs. Charles F. 69 Gamage Ave., Auburn  
 Carrier, Mrs. John W. 53 Campus Ave., Lewiston  
 Chapin, Mrs. Milan A. 237 Turner St., Auburn  
 Chevalier, Mrs. Paul R. 353 Pine St., Lewiston  
 Clapp, Mrs. Waldo A. 215 College St., Lewiston  
 Clapperton, Mrs. Gilbert 21 Ryder St., Lewiston  
 Cloutier, Mrs. Wilfrid A. 210 Sabattus St., Lewiston  
 Cox, Mrs. William V. 82 Gamage Ave., Auburn  
 Davis, Mrs. Wirt L. 14 Nelke Place, Lewiston  
 Dycio, Mrs. George 55 Broad St., Auburn  
 Fahey, Mrs. William J. 17 Frye St., Lewiston  
 Fishman, Mrs. Louis N. 223 Lake St., Auburn  
 Flanders, Mrs. Merton N. 370 Main St., Lewiston  
 Fortier, Mrs. Paul J. B. Barron Ave., Lewiston  
 Friend, Mrs. John W. 70 Western Ave., Auburn  
 Frost, Mrs. Robert A. 108 Summer St., Auburn  
 Gauvreau, Mrs. Horace L. 69 Horton St., Lewiston  
 Gauvreau, Mrs. Norman 69 Fair St., Lewiston  
 Giguere, Mrs. Eustace N. 98 Webster St., Lewiston  
 Goldman, Mrs. Morris E. 524 Main St., Lewiston  
 Goodwin, Mrs. Ralph A., Sr. 56 Denison St., Auburn  
 Goodwin, Mrs. Ralph A., Jr. 48 Grand Ave., Auburn  
 Green, Mrs. Ross W. R.F.D. No. 2, Auburn  
 Greene, Mrs. John P. R.F.D. No. 2, Auburn  
 Greene, Mrs. Merrill S. F. 466 Main St., Lewiston  
 Gross, Mrs. Lerov C. 19 Goff St., Auburn  
 Haas, Mrs. Rudolph 484 Main St., Lewiston  
 Hannigan, Mrs. Charles A. 85 Goff St., Auburn  
 Hiebert, Mrs. Joelle C., Jr. R.F.D. No. 2, Auburn  
 Higgins, Mrs. Everett C. 149 College St., Lewiston  
 Hirshler, Mrs. Max 25 Bardwell St., Lewiston  
 Horsman, Mrs. Donald H. 50 Goff St., Auburn  
 James, Mrs. Chakmakis 47 Howe St., Lewiston  
 James, Mrs. John A. R.F.D. No. 2, Auburn  
 Konecki, Mrs. John T. R.F.D. No. 2, Auburn  
 LaFlamme, Mrs. Paul J. 106 Russell St., Lewiston  
 Lemaitre, Mrs. Paul G. 268 Webster St., Lewiston  
 Lidstone, Mrs. Frederick B. R.F.D. No. 2, Auburn  
 Martel, Mrs. Cyprien L., Jr. 24 Frye St., Lewiston  
 Mendes, Mrs. Joseph M. 221 Pleasant St., Lisbon Falls  
 Methot, Mrs. Frank P. 1 Bellegarde Circle, Lewiston  
 Miller, Mrs. Clark F. 46 Madison St., Auburn  
 Morin, Mrs. Gerard L. Nottingham Rd., Auburn  
 Morissette, Mrs. Russell A. 69 Western Promenade, Auburn  
 Nadeau, Mrs. J. Paul 91 Pine St., Lewiston  
 O'Connell, Mrs. George B. 79 Shepley St., Auburn  
 Potts, Mrs. Ronald S. 18 Ware St., Lewiston  
 Proulx, Mrs. Harvey J. 435 East Ave., Lewiston  
 Rand, Mrs. Carleton H. 166 College St., Lewiston  
 Renwick, Mrs. Ward J. 102 Goff St., Auburn  
 Rock, Mrs. Daniel A. 477 Main St., Lewiston  
 Shems, Mrs. Albert 487 Main St., Lewiston  
 Shields, Mrs. Daniel R. R.F.D. No. 2, Auburn  
 Spear, Mrs. William 107 Main St., Lisbon Falls  
 Steele, Mrs. Charles W. 1 Wakefield St., Lewiston  
 Sweatt, Mrs. L. A. 48 Drummond St., Auburn  
 Swett, Mrs. Alfred E. 308 Minot Ave., Auburn  
 Thacher, Mrs. Henry C. Upper Turner St., Auburn  
 Tibbetts, Mrs. Otis B. R.F.D. No. 2, Auburn  
 Timberlake, Mrs. Ralph M., Jr. 24 Dexter Ave., Auburn  
 Twaddle, Mrs. Gard W. 57 Goff St., Auburn  
 Wakefield, Mrs. Robert D. R.F.D. No. 2, Auburn  
 Webber, Mrs. Wedgwood P. 376 Main St., Lewiston

## AROOSTOOK COUNTY

Albert, Mrs. Armand Main St., Van Buren  
 Aungst, Mrs. Melvin R. 4 High St., Fort Kent  
 Boone, Mrs. Storer W. 54 Third St., Presque Isle  
 Collins, Mrs. H. Douglas Home Farm Rd., Caribou  
 Donahue, Mrs. Clement L. 13 Collins St., Caribou  
 Donahue, Mrs. Gerald H. 52 Dudley St., Presque Isle  
 Etscovitz, Mrs. Eli A. Home Farm Rd., Caribou  
 Faucher, Mrs. Francois J. Main St., Grand Isle  
 Giberson, Mrs. Raymond G. Hillside Ave., Presque Isle  
 Higgins, Mrs. George F. 14 Dudley St., Presque Isle  
 Kimball, Mrs. Herrick C. Presque Isle Rd., Fort Fairfield  
 Kirk, Mrs. William V. Eagle Lake  
 Kramer, Mrs. Henry F. 26 Pioneer Ave., Caribou  
 Pines, Mrs. Philip 22 Long Rd., Limestone  
 Rideout, Mrs. Samuel 2 Depot St., Fort Fairfield  
 Warren, Mrs. Harold D. 27 N. Main St., Caribou

## CUMBERLAND COUNTY

Agan, Mrs. Robert W. 3 Rocky Hill Rd., Cape Elizabeth  
 Ansell, Mrs. Harvey B. 136 Baxter Blvd., Portland  
 Aranson, Mrs. Albert 177 Caleb St., Portland  
 Asali, Mrs. Louis A. Kirkwood Rd., Scarborough  
 Asherman, Mrs. Edward G. Falmouth Rd., Falmouth  
 Babalian, Mrs. Leon Surf Rd., Cape Cottage  
 Baldini, Mrs. Elio 89 West St., Portland  
 Baldwin, Mrs. Warren C. Andrews Rd., Falmouth Foreside  
 Bennett, Mrs. Eben T. Shore Rd., Cape Elizabeth  
 Bidwell, Mrs. Robinson L. 24 Casco Ter., Falmouth Foreside  
 Bischoffberger, Mrs. John M. Naples  
 Blaisdell, Mrs. Elton R. 35 Penrith Rd., Portland  
 Bove, Mrs. Louis G. 95 West St., Portland  
 Branson, Mrs. Sidney R. Gray Rd., South Windham  
 Broggi, Mrs. Frank S. 18 Neal St., Portland  
 Brown, Mrs. Douglas H. Birchwood Rd., Cape Elizabeth  
 Brown, Mrs. Luther A. 13 Deering St., Portland  
 Burnett, Mrs. Claude A., Jr. Delano Park, Cape Elizabeth  
 Burrage, Mrs. William C. 53 Chadwick St., Portland  
 Capron, Mrs. Charles W. Hunnewell Rd., Scarborough  
 Casey, Mrs. William L. 146 Clinton St., Portland  
 Clark, Mrs. Frederick B. 112 Foreside Rd., Falmouth Foreside  
 Clarkin, Mrs. Charles P. 64 Brookside Rd., Portland  
 Clemett, Mrs. Arthur R. 1 Ship Channel Rd., So. Portland  
 Cole, Mrs. Donald P. 55 Cottage Farms Rd., Cape Elizabeth  
 Crane, Mrs. Lawrence 265 Western Promenade, Portland  
 Cummings, Mrs. George O. 583 Shore Rd., Cape Elizabeth  
 Cummings, Mrs. George O., Jr. Orchid Rd., Cape Elizabeth  
 Curtis, Mrs. Harry L. 45 Wellington Rd., Portland  
 Darche, Mrs. Albert A. 143 King St., Westbrook  
 Davies, Mrs. Lloyd G. 78 Main St., Fryeburg  
 Dionne, Mrs. Maurice J. Pleasant Hill Rd., Brunswick  
 Dooley, Mrs. Francis M. 53 Deering St., Portland  
 Dorsey, Mrs. F. Donald 52 Deering St., Portland  
 Douphinett, Mrs. Otis J. Maple Ave., Scarborough  
 Drake, Mrs. Emerson H. State Rd., Cumberland Foreside  
 Drake, Mrs. Eugene H. County Rd., South Gorham  
 Drummond, Mrs. Joseph B. Ship Channel Rd., So. Portland  
 Dunham, Mrs. Carl E. 1122 Washington Ave., Portland  
 Dyhrberg, Mrs. Norman E., 331 Main St., Cumberland Mills  
 Earnhardt, Mrs. Joseph B. 55 Stroudwater St., Westbrook  
 Eppinger, Mrs. Ernst 52 Belmont St., Portland  
 Fagone, Mrs. Francis A. 173 Bolten St., Portland  
 Ferguson, Mrs. Franklin F. Surf Rd., Cape Cottage  
 Fish, Mrs. Nicholas State Rd., Cumberland Foreside  
 Fogg, Mrs. Philip S. 173 Pleasant Ave., Portland  
 Fox, Mrs. Francis H. 83 West St., Portland  
 Gates, Mrs. Clifford W. Flaggy Meadow Rd., Gorham  
 Geer, Mrs. Charles R. 212 Vaughan St., Portland  
 Geer, Mrs. George I., Sr. 299 Woodford St., Portland  
 Geer, Mrs. George I., Jr. 58 Clifford St., South Portland



Gehring, Mrs. Edwin W. 284 Ocean Ave., Portland  
 Gibbons, Mrs. John F. Maiden Cove Lane, Cape Elizabeth  
 Gilbert, Mrs. Frank Y. 102 Emery St., Portland  
 Glassmire, Mrs. Charles R. 20 Drew Rd., South Portland  
 Goduti, Mrs. Richard J. 16 Brown St., Portland  
 Good, Mrs. Philip G. 126 Fickett St., South Portland  
 Hallett, Mrs. George W., Jr. Shore Rd., Cape Elizabeth  
 Haney, Mrs. Oramiel 74 Deering St., Portland  
 Hanley, Mrs. Daniel F. 58 Federal St., Brunswick  
 Hawkes, Mrs. Richard S. 174 Longfellow St., Portland  
 Hecht, Mrs. Henry 326 Stevens Ave., Portland  
 Heifetz, Mrs. Ralph 112 Chenery St., Portland  
 Hill, Mrs. Douglas R. 2 State Ave., Cape Elizabeth  
 Hinckley, Mrs. Harris Shore Rd., Cape Elizabeth  
 Holt, Mrs. C. Lawrence 230 Foreside Rd., Falmouth Foreside  
 Hudson, Mrs. Henry A. 11 Gage St., Bridgton  
 Ives, Mrs. Howard R. 56 Bowdoin St., Portland  
 Jacobson, Mrs. Payson B. 295 Brighton Ave., Portland  
 Johnson, Mrs. Albert C. Shore Acres, Cape Elizabeth  
 Johnson, Mrs. Oscar R. 18 Deering St., Portland  
 Knowles, Mrs. Robert M. Cumberland Foreside  
 Lape, Mrs. C. Philip 132 Chadwick St., Portland  
 Leary, Mrs. Gerald C. 7 Redlon Rd., Portland  
 Leighton, Mrs. Wilbur F. 118 Beacon St., Portland  
 Lincoln, Mrs. John R. 120 Woodville Rd., Falmouth  
 Logan, Mrs. G. E. C. 44 Shore Line Dr., Falmouth  
 Lorimer, Mrs. Robert V. 1 Ocean Rd., South Portland  
 Lovely, Mrs. David K. 52 Berkeley St., Portland  
 Mack, Mrs. Francis X. 1473 Westbrook St., Portland  
 MacVane, Mrs. William L., Jr. 25 Storer St., Portland  
 Maltby, Mrs. George L. Bramhall Field, Falmouth Foreside  
 Marshall, Mrs. Donald F. Surf Rd., Cape Cottage  
 Martin, Mrs. Ralf 33 Merrill Rd., Falmouth  
 Martin, Mrs. Thomas A. 1415 Forest Ave., Portland  
 Matthews, Mrs. Edward C. 127 Neal St., Portland  
 Mauther, Mrs. Hans V. State Rd., Yarmouth  
 Miller, Mrs. Thor 752 Main St., Westbrook  
 Monaghan, Mrs. Stephen E. 65 Drew Rd., South Portland  
 Monkhouse, Mrs. William A. 29 Bowdoin St., Portland  
 Morrison, Mrs. Alvin A. 165 Glenwood Ave., Portland  
 Moulton, Mrs. Albert W., Jr. 97 Vaughan St., Portland  
 Moulton, Mrs. W. Bean 29 Longfellow St., Portland  
 McCann, Mrs. Eugene C. 4 Woodmont St., Portland  
 McCrum, Mrs. Philip H. 15 Fairlawn Ave., South Portland  
 McIntire, Mrs. Barron F., Jr. 13 W. Elm St., Yarmouth  
 McLean, Mrs. E. Allan 331 Foreside Rd., Falmouth Foreside  
 McManamy, Mrs. Eugene P. Surf Rd., Cape Cottage  
 McMichael, Mrs. Morton Pope Rd., Windham Hill  
 Nichols, Mrs. Estes 59 West St., Portland  
 O'Donnell, Mrs. Eugene E. 12 Cottage Farms Rd., Cape Elizabeth  
 Olmsted, Mrs. Burton L. 8 Rock Wall Lane, Cape Elizabeth  
 Orberton, Mrs. Everett A. 45 Channel Rd., South Portland  
 Osher, Mrs. Harold L. 66 Chadwick St., Portland  
 Ottum, Mrs. Alvin E. Falmouth Rd., Falmouth  
 Parker, Mrs. James M. 229 Foreside Rd., Falmouth Foreside  
 Pawle, Mrs. Robert H. Steep Falls  
 Penta, Mrs. Walter E. 316 Woodford St., Portland  
 Petterson, Mrs. Herman C. Chebeague Island  
 Poliner, Mrs. Irving J. 75 Hillcrest Rd., Cape Elizabeth  
 Porter, Mrs. Joseph E. 53 Falmouth Rd., Falmouth  
 Pudor, Mrs. G. A. 15 Sheffield St., Portland  
 Sager, Mrs. George F. Shore Rd., Cape Elizabeth  
 Santoro, Mrs. Domenico A. 43 Deering St., Portland  
 Sapiro, Mrs. Howard M. 44 Pitt St., Portland  
 Sawyer, Mrs. Howard P., Jr. 672 Ocean Ave., Portland  
 Selvage, Mrs. Irving L., Jr. 88 Ivie Rd., Cape Elizabeth  
 Shanahan, Mrs. William H. 1231 Forest Ave., Portland  
 Shapiro, Mrs. Morrill 95 Caleb St., Portland  
 Skillin, Mrs. Charles E. Sea Cove Rd., Cumberland Foreside  
 Spencer, Mrs. Jack 12 Waites Landing Rd., Falmouth  
 Stebbins, Mrs. Arthur P. 996 Sawyer St., So. Portland  
 Stephenson, Mrs. Richard B. 12 Woodland Rd., Cape Elizabeth  
 Storer, Mrs. Daniel P. 108 Fessenden St., Portland  
 Sylvester, Mrs. Allan W. 396 Ocean Ave., Portland  
 Sylvester, Mrs. Stanley B. 1346 Westbrook St., Portland  
 Tabachnick, Mrs. Henry M. 110 Park Ave., Portland  
 Taylor, Mrs. William F. Providence Ave., Falmouth Foreside  
 Tetreau, Mrs. William J. 25 Fall Lane, Portland

Thaxter, Mrs. Langdon T. Route No. 100, Cumberland Foreside  
 Thompson, Mrs. Philip P., Jr. 7 Ship Channel Rd., So. Portland  
 Titherington, Mrs. John B. 97 Brook Rd., Falmouth  
 Tougas, Mrs. Raymond A. 8 Cumberland St., Brunswick  
 Turcotte, Mrs. Guy N. 6 Oakwood Rd., Cape Elizabeth  
 Turgeon, Mrs. Raphael F. 68 Lyman St., Westbrook  
 Van Lonkhuyzen, Mrs. Maurice Shore Rd., R. 2, Cape Elizabeth  
 Webber, Mrs. Isaac M. Penrith Rd., Portland  
 Weeks, Mrs. DeForest 158 Pleasant Ave., Portland  
 Wellington, Mrs. J. Foster 396 Brighton Ave., Portland  
 White, Mrs. William J. 1 Mitchell Rd., South Portland  
 Wight, Mrs. Donald G. 30 Mitchell Rd., South Portland  
 Williams, Mrs. Ralph E. Main St., Freeport  
 Woodman, Mrs. George M. 826 Main St., Westbrook  
 Wyman, Mrs. David S. 7 Bayview Ave., South Portland  
 Zolov, Mrs. Benjamin 430 Baxter Blvd., Portland

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Bowne, Mrs. Hays G. 9A Main St., Farmington  
 Brinkman, Mrs. Harry 47 Perham St., Farmington  
 Chase, Mrs. Philip B. 36 Main St., Farmington  
 Colley, Mrs. Maynard B. Main St., Wilton  
 Covert, Mrs. S. Burion Kingfield  
 Duffy, Mrs. Wallace H. 100 Main St., Farmington  
 Eastman, Mrs. Charles W. 15 Millet St., Livermore Falls  
 Fichtner, Mrs. Paul A. 6 Pleasant St., Rangeley  
 Fiorica, Mrs. Gaetano T. 12 Church St., Chisholm  
 Floyd, Mrs. Paul E. 2 Middle St., Farmington  
 Marsters, Mrs. David W. Phillips  
 Martin, Mrs. Joseph E. 43 High St., Livermore Falls  
 Pratt, Mrs. Harold S. 18 Church St., Livermore Falls  
 Reed, Mrs. James W. 18 Main St., Farmington  
 Rowe, Mrs. Gunther H. 42 Main St., Livermore Falls  
 Thompson, Mrs. Cecil F. Phillips  
 Weymouth, Mrs. Currier C. Main St., Farmington

## KENNEBEC COUNTY

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 Brann, Mrs. Henry A. 38 Fairview Ave., Augusta  
 Crawford, Mrs. Albert S. Veterans Administration, Togus  
 Crawford, Mrs. Joseph R. 86 Winthrop St., Augusta  
 Dachslager, Mrs. Philip 55 Capitol St., Augusta  
 Daniels, Mrs. Donald H. R.R. 1, Readfield  
 Darlington, Mrs. Brinton T. Westwood Rd., Augusta  
 Denison, Mrs. John D. 105 Brunswick Ave., Gardiner  
 Fallon, Mrs. Anne 52 Lincoln St., Augusta  
 Fallon, Mrs. Richard N. Westwood Rd., Augusta  
 Farrell, Mrs. Chalmers G. 68 Central St., Gardiner  
 Gingras, Mrs. Adolphe J. 113 Northern Ave., Augusta  
 Gingras, Mrs. Napoleon J. 124 State St., Augusta  
 Herring, Mrs. Leon D. 1 Western Ave., Winthrop  
 Jackson, Mrs. Elmer H. 47 Chapel St., Augusta  
 Lepore, Mrs. Anthony E. 76 School St., Gardiner  
 Mathews, Mrs. Hugh J., Jr. 75 Brunswick Ave., Gardiner  
 Melendy, Mrs. Oakley A. Westwood Rd., Augusta  
 Milliken, Mrs. Howard H. 105 Second St., Hallowell  
 Mitchell, Mrs. Roscoe L. 280 First Ave., Apt. 4D, New York 9, N. Y.  
 Moore, Mrs. Arnold W. 112 Eastern Ave., Augusta  
 Morrell, Mrs. Arch H. 67 Sewall St., Augusta  
 Murphy, Mrs. Norman B. 19 So. Chestnut St., Augusta  
 McLaughlin, Mrs. Clarence R., 152 Brunswick Ave., Gardiner  
 McLaughlin, Mrs. Ivan E. Lewiston Rd., Gardiner  
 McQuillan, Mrs. Arthur H. 6 Dalton St., Waterville  
 O'Connor, Mrs. Francis J. 4 Woodlawn St., Augusta  
 O'Connor, Mrs. William 43 Green St., Augusta  
 Ohler, Mrs. Robert L. East Winthrop  
 Plimpton, Mrs. Jay R. 12 Blaine Ave., Augusta  
 Robertson, Mrs. George J. 33 College Ave., Waterville  
 Russell, Mrs. Walter A. 5 Chestnut St., Hallowell  
 Sanders, Mrs. Stephen W. 120 Main St., Winthrop  
 Shippee, Mrs. James N. Main St., Winthrop  
 Sleeper, Mrs. Francis H. Box 724, Augusta  
 Sommerfeld, Mrs. Kurt A. 182 Dresden Ave., Gardiner  
 Stinchfield, Mrs. Allan J. 6 Warren St., Hallowell

## KNOX COUNTY

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Allen, Mrs. Robert L.  
 Apollonio, Mrs. Howard L.  
 Brouwer, Mrs. Johan  
 Dennison, Mrs. Frederick C.  
 Eddy, Mrs. Robert H.  
 Heath, Mrs. Parker, Jr.  
 Hopping, Mrs. John S.  
 Jameson, Mrs. C. Harold  
 Kibbe, Mrs. Frank W.  
 King, Mrs. Merrill J.  
 King, Mrs. Merrill J., Jr.  
 Lawry, Mrs. Oram R., Jr.  
 Mann, Mrs. David V.  
 Millington, Mrs. Paul A.  
 Morse, Mrs. Edward K.  
 McLellan, Mrs. William A.  
 Root, Mrs. John A.  
 Soule, Mrs. Gilmore W.  
 Tounge, Mrs. Harry G., Jr.  
 Wasgatt, Mrs. Wesley N.

Bear Hill, Rockport  
 Mechanic St., Rockport  
 8 Mountain St., Camden  
 52 Main St., Thomaston  
 130 Chestnut St., Camden  
 58 Washington St., Camden  
 Beaver Lodge Rd., Hope  
 Chestnut St., Camden  
 Lincolnville  
 89 Talbot Ave., Rockland  
 West Rockport  
 96 Limerock St., Rockland  
 Belfast Rd., Camden  
 44 Mountain St., Camden  
 39 High St., Camden  
 Chestnut St., Camden  
 81 Summer St., Rockland  
 52 Gay St., Rockland  
 12 Union St., Camden  
 41 Talbot St., Rockland

## OXFORD COUNTY

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 Aucoin, Mrs. Peter B.  
 Bean, Mrs. H. Richard  
 Dixon, Mrs. Walter G.  
 Elsemore, Mrs. Dexter E.  
 Greene, Mrs. John A.  
 Harper, Mrs. Harry L.  
 Howard, Mrs. Henry M.  
 Hubbard, Mrs. Roswell E.  
 MacDougall, Mrs. James A.  
 Miller, Mrs. George W.  
 McCormack, Mrs. Roland L.  
 Nangle, Mrs. Thomas P.  
 Nelson, Mrs. Chesley W.  
 Oestrich, Mrs. Alfred  
 Rowe, Mrs. Linwood M.

Maple St., South Paris  
 25 Rumford Ave., Rumford  
 Crocket Ridge, Norway  
 16 Deering St., Norway  
 Dixfield  
 90 Congress St., Rumford  
 17 Main St., South Paris  
 105 Franklin St., Rumford  
 Waterford  
 303 Penobscot St., Rumford  
 90 Main St., Norway  
 12 Bridge St., Norway  
 West Paris  
 121 Main St., Norway  
 Roxbury Rd., Mexico  
 246 Penobscot St., Rumford

## PENOBSCOT COUNTY

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 Adams, Mrs. Winford C.  
 Ames, Mrs. Forrest B.  
 Babcock, Mrs. Albert L.  
 Babcock, Mrs. Edward B.  
 Barrett, Mrs. Robert J., Jr.  
 Blackburn, Mrs. Nelson P.  
 Blaisdell, Mrs. William B.  
 Bridges, Mrs. Donald E.  
 Brown, Mrs. Eugene E.  
 Brown, Mrs. Lloyd  
 Burke, Mrs. John E.  
 Burke, Mrs. Paul W.  
 Butler, Mrs. Harry  
 Chason, Mrs. Sidney  
 Clement, Mrs. James D., Jr.  
 Clough, Mrs. Dexter J., 2nd  
 Comeau, Mrs. Wilfred  
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 Fergus, Mrs. Andrew  
 Gaillard, Mrs. Richard A.  
 Hall, Mrs. Walter L. H.  
 Hamlin, Mrs. Irvin E.  
 Hedin, Mrs. Carl J.  
 Hill, Mrs. Allison K.  
 Houlihan, Mrs. John S.  
 Irwin, Mrs. Carl W.  
 Leddy, Mrs. Percy A.  
 Lezberg, Mrs. Joseph  
 Lieberman, Mrs. Arthur N.  
 Manter, Mrs. Wilbur B.  
 Miragliuolo, Mrs. Leonard G.  
 Moulton, Mrs. Gardner N.

99 Forest Ave., Orono  
 State Rd., Holden  
 532 North Main St., Brewer  
 38 Silver Rd., Bangor  
 23 Ohio St., Bangor  
 127 Somerset St., Bangor  
 Winterport  
 Penobscot Ter., Brewer  
 765 Hammond St., Bangor  
 57 Summit Ave., Bangor  
 427 Garland St., Bangor  
 295 Pine St., Bangor  
 5 High St., Newport  
 77 Broadway, Bangor  
 173 Pine St., Bangor  
 158 Kenduskeag Ave., Bangor  
 River Rd., Bucksport  
 115 Main St., Orono  
 118 Forest Ave., Orono  
 326 State St., Bangor  
 73 Grove St., Bangor  
 33 Grove St., Bangor  
 76 Washington St., Brewer  
 35 Maple St., Bangor  
 131 State St., Bangor  
 Main Rd., Hampden  
 247 Larkin St., Bangor  
 91 Grove St., Bangor  
 50 N. 4th St., Old Town  
 East Millinocket  
 Penobscot Ter., Brewer  
 113 Somerset St., Bangor  
 66 Howard St., Bangor  
 39 West Broadway, Bangor  
 312 Center St., Old Town  
 33 Beecher Park, Bangor  
 180 Broadway, Bangor  
 State St., Veazie  
 20 Elm St., Bangor  
 Main Road, Orono

Munce, Mrs. Richard T.  
 McNeil, Mrs. Harry D.  
 McQuoid, Mrs. Robert M.  
 Oster, Mrs. Jay K.  
 Palmer, Mrs. Thomas H., Jr.  
 Pearson, Mrs. John J.  
 Pooler, Mrs. Harold A.  
 Ridlon, Mrs. Magnus F.  
 Ruhlin, Mrs. Carl W.  
 Sewall, Mrs. Elmer M.  
 Shaper, Mrs. Benjamin L.  
 Shurman, Mrs. Hans  
 Silsby, Mrs. Samuel  
 Skinner, Mrs. Peter S.  
 Strout, Mrs. Warren G.  
 Sullivan, Mrs. John R.  
 Taylor, Mrs. H. Lewis  
 Thomas, Mrs. Philip B.  
 Vickers, Mrs. Martyn A.  
 Walker, Mrs. George R.  
 Weisz, Mrs. Hans  
 Whitney, Mrs. Byron V.  
 Whitworth, Mrs. John E.  
 Woodcock, Mrs. Allan

410 French St., Bangor  
 81 Silver Rd., Bangor  
 R.F.D. No. 5, Brewer  
 State St., Veazie  
 490 State St., Bangor  
 Box 104, Milford  
 Bangor State Hospital, Bangor  
 Main St., East Hampden  
 Hampden Highlands  
 14 Park St., Orono  
 99 Norway Rd., Bangor  
 10 Spring St., Dexter  
 11 Ohio St., Bangor  
 112 Ohio St., Bangor  
 43 Highland Ave., Bangor  
 340 North Main St., Brewer  
 20 Spring St., Dexter  
 176 Maple St., Bangor  
 72 West Broadway, Bangor  
 128 Broadway, Bangor  
 196 Main St., Lincoln  
 280 State St., Bangor  
 40 Garland St., Bangor  
 16 Beecher Park, Bangor

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 Carde, Mrs. Albert M.  
 Curtis, Mrs. John B.  
 Howard, Mrs. George C.  
 Johnson, Mrs. James H., Jr.  
 Lightbody, Mrs. Charles H.  
 Nelson, Mrs. Isaac  
 Nickerson, Mrs. Norman H.  
 Nielsen, Mrs. Odd S.  
 Pritham, Mrs. Fred J.  
 Stanhope, Mrs. Charles N.  
 Stitham, Mrs. Linus J.  
 Stuart, Mrs. Ralph C.  
 Valentine, Mrs. John B.

Dover-Foxcroft  
 Milo  
 10 High St., Milo  
 Guilford  
 Milo  
 Guilford  
 Greenville  
 Greenville  
 Dexter  
 Greenville Junction  
 South St., Dover-Foxcroft  
 50 Main St., Dover-Foxcroft  
 Guilford  
 9 E. Main St., Dover-Foxcroft

## YORK COUNTY

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 Cobb, Mrs. Stephen A.  
 Cunco, Mrs. Kenneth J.  
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 Downing, Mrs. J. Robert  
 Drummond, Mrs. S. Dunton  
 Fortier, Mrs. Andre P.  
 Haas, Mrs. Carl M.  
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 Hoffman, Mrs. Alvin A.  
 Hopkins, Mrs. Herbert J.  
 Houle, Mrs. Marcel P.  
 Jacobson, Mrs. Payson B.  
 Jellerson, Mrs. Leon R.  
 Johnston, Mrs. James S.  
 LaFond, Mrs. Robert S.  
 Lapirow, Mrs. Harry  
 Leary, Mrs. Gerald C.  
 Lincourt, Mrs. Armand S.  
 Magocsi, Mrs. Alexander W.  
 Mahaney, Mrs. William F.  
 Myer, Mrs. John C.  
 O'Sullivan, Mrs. William B.  
 Ouellette, Mrs. Marcel D.  
 Richards, Mrs. Carl E.  
 Robert, Mrs. Roger J. P.  
 Ross, Mrs. H. Danforth  
 Ross, Mrs. Maurice  
 Sever, Mrs. James W.  
 Smith, Mrs. Gerald R.  
 Vachon, Mrs. Robert D.  
 Viger, Mrs. Leopold A.  
 Wolfahrt, Mrs. Eugene P.

4 Fernald St., Old Orchard  
 11 Lebanon St., Sanford  
 31 Summer St., Kennebunk  
 5 Edmond St., Springvale  
 35 Summer St., Kennebunk  
 Bar Mills  
 200 Granite St., Biddeford  
 415 Main St., Saco  
 319 Main St., Saco  
 York  
 24 Portland Ave., Old Orchard  
 34 Union St., Biddeford  
 13 Bacon St., Biddeford  
 North Berwick  
 York  
 23 Weymouth St., Saco  
 99 Main St., Kennebunk  
 7 Redlon Rd., Portland  
 410 Main St., Sanford  
 York  
 338 Main St., Saco  
 4 Roles St., North Berwick  
 South St., Biddeford  
 7 Park St., Sanford  
 Main St., Alfred  
 38 May St., Biddeford  
 12 Storer St., Sanford  
 372 Main St., Saco  
 Cape Neddick  
 Ogunquit  
 23 June St., Sanford  
 34 Orchard St., Biddeford  
 24 Hall Ave., Saco

## MEMBERS-AT-LARGE

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 MacBride, Mrs. Robert G.

East Machias, Washington  
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